SECTION 4
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section identifies the social, economic, and environmental resources that exist in the project area and reviews the potential impacts. Those resources with a reasonable possibility for indirect or cumulative significant impacts were analyzed further. The results of this analysis are discussed below.

4.1 Traffic

A commodity flow model was developed for the DIFT Project (refer to Technical Reports listed at end of Table of Contents). It provides a tool for forecasting future-year commodity flows. The model is sensitive in a number of ways including:

- Mode choice (truck, intermodal rail and carload rail) is sensitive to highway travel time and future highway congestion. Mode choice is also sensitive to intermodal/rail travel time.
- Mode choice is sensitive to costs. Thus, if the cost of shipping by a given mode changes (highway/truck, intermodal rail and carload rail), there will be a shift in modes.
- Allocation of intermodal goods to each major intermodal terminal in Southeast Michigan, Ohio, Indiana and Chicago is sensitive to the costs and times of shipping through each terminal, and the costs and times for shipping by the carload and truck modes.

Key components of the forecast process include:

1. A zonal system: 83 Michigan counties, the other U.S. states, the Canadian provinces and Mexico.
2. Roadway and rail networks.
3. Year 2025 commodity flow forecasts by 19 different groups.
4. Trip distribution and mode split models.

The commodity flow model was applied to a set of possible changes in each freight mode's characteristics to determine the range in the number of intermodal truck-rail transfers (called lifts) in Southeast Michigan. These forecasts are also sensitive to a myriad of factors including growth in population and employment as well as economic productivity.

The forecasts of intermodal activity by alternative were submitted for review to the affected railroads. The intermodal terminal operators who responded indicated that the high end of each 2025 forecasted lift range for the alternatives (e.g., 885,000 for Alternative 2 and 1,148,000 for Alternative 3 as shown on Figure 4-1) involving government investment (i.e., Alternatives 2, 3 and 4) are optimistic, but reasonably so, in light of the horizon being over 20 years in the future, i.e., 2025. Consultation also indicated that, without government assistance, i.e., Alternative 1, the intermodal growth could be as low as 500,000 lifts per year in 2025 compared to the model's forecast of 620,000 annual lifts at the low end of the range (Table 4-1). This is because business would be shifted to terminals outside the region, for example CSX to Cleveland, NS to Toledo and CP to Chicago. Therefore, to account for both the direct and indirect effects of the terminals, the high end on the forecast ranges for Alternatives 2, 3 and 4 were compared to a volume under the No Action scenario of about 500,000 lifts per year (Figure 4-1).

Table 4-1a
Detroit Intermodal Freight Terminal Project
2025 Annual Lifts
No Action Alternative
From Commodity Flow Model Results

	Annual Lifts	
Terminal[a]	**Low**	**High**
W	352,800	441,600
X	44,500	55,700
Y	137,200	171,700
Z	85,500	107,000
Total	620,000	776,000

[a]Terminal's owner/operator is not identified at the railroads' request in light of proprietary interests.
Source: The Corradino Group of Michigan, Inc.

Table 4-1b
Detroit Intermodal Freight Terminal Project
2025 Annual Lifts
No Action Alternative
With Adjustment Downward
From Commodity Flow Model Results

Terminal[a]	Annual Lifts
W	280,000
X	35,000
Y	110,000
Z	70,000
Total	495,000

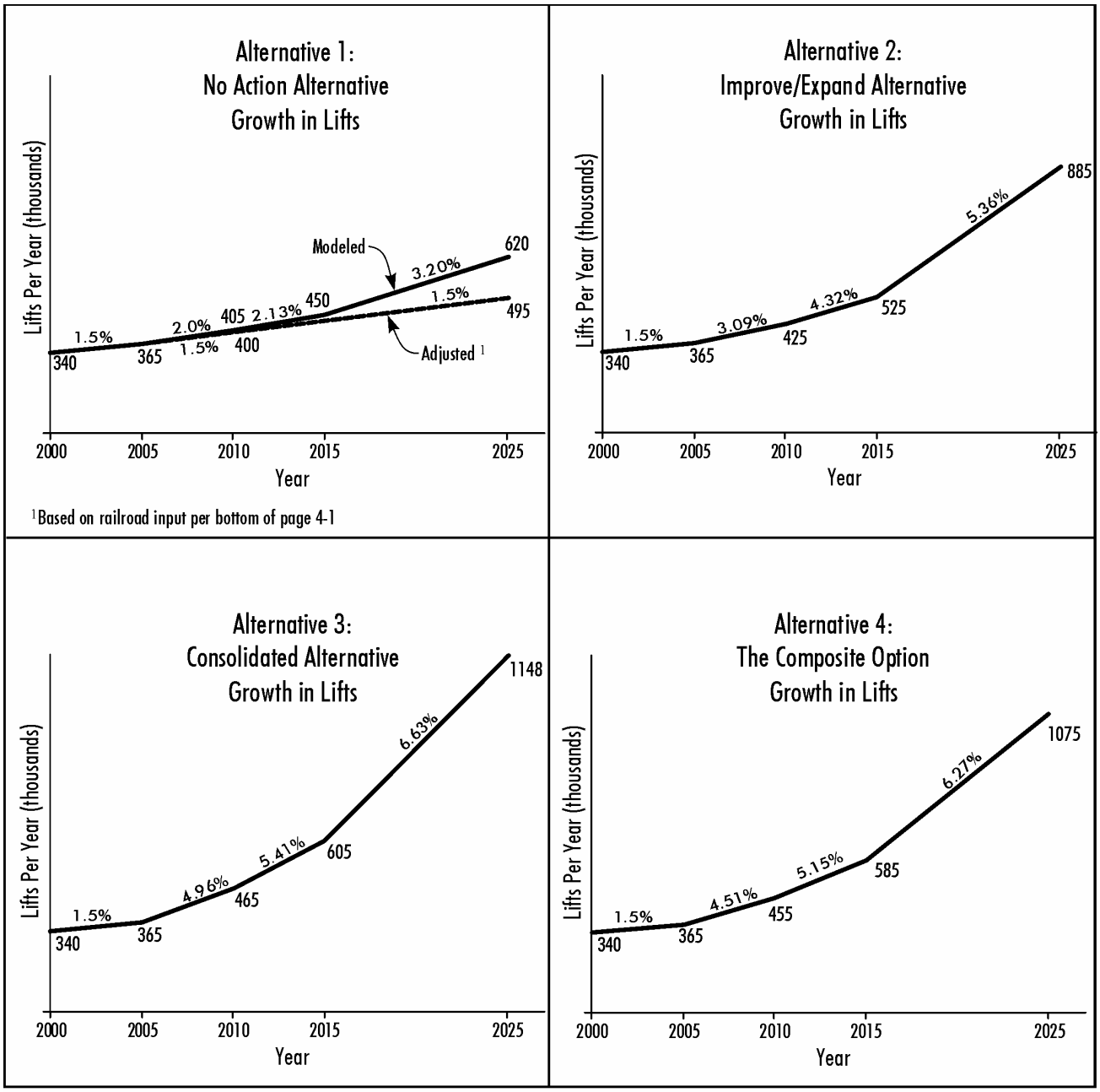
[a]Terminal's owner/operator is not identified at the railroads' request in light of proprietary interests.
Source: The Corradino Group of Michigan, Inc.

Table 4-1c
Detroit Intermodal Freight Terminal Project
2025 Truck Traffic (Two-way Trips)
Alternative 1: No Action Alternative

Terminal[a]	Annual Lifts	Daily Two-way Truck Trips
W	280,000	1,260
X	35,000	140
Y	110,000	390
Z	70,000	370
Total	495,000	2,060

[a]Terminal's owner/operator is not identified at the railroads' request in light of proprietary interests.
Source: The Corradino Group of Michigan, Inc.

Figure 4-1
Detroit Intermodal Freight Terminal Project
Forecast of Intermodal Activity (Lifts)



SOURCE: The Corradino Group of Michigan, Inc.
L:/Projects/2846-A/Graphics/Enviro/LiftGrwth.cdr

To convert intermodal lifts to trucks, truck counts were conducted at each intermodal terminal in August 2002. That information, when combined with a confidential survey of almost 80 intermodal terminals in North America as a reasonableness check, allowed the conversion of lifts to truck trips (Table 4-1d). The results, in terms of annual lifts and daily truck trips (two-way) at each terminal, for each alternative are shown in Tables 4-2 through 4-4. It is noted that intermodal lift and truck activities have not been identified with a specific railroad at the railroad's request in light of proprietary interests.

In developing complete analyses of traffic impacts, it is possible that CSX and NS could rearrange their individual terminals at the Livernois-Junction Yard. Based on an examination of such scenarios (and accommodation of Conrail inside the Livernois-Junction Yard south of John Kronk), a terminal layout is possible that will shift gate locations and truck traffic from Livernois Avenue to Wyoming Avenue. The truck trips resulting from such a shift are depicted on Tables 4-5, 4-6 and 4-7 as "Revised." This would cause 800 to 900 truck trips per day (two-way) in 2025 to move from a Livernois Avenue access route to Wyoming Avenue. To completely account for this possibility, two alternative traffic analyses scenarios (labeled "Original" and "Revised") were developed for the Livernois-Junction Yard for Alternatives 2B, 3 and 4.

Under No Action conditions, the only intersection of more than 100 analyzed that is expected to have unacceptable traffic conditions (i.e., volume greater than capacity) is at Dix/Waterman/Vernor at the Livernois-Junction Yard. That condition is repeated for Alternative 2/Option A. This is due to traffic moving through a gate to the Livernois-Junction Yard at this location. This gate and the traffic problem it causes are eliminated under all other alternatives.

The data on Figures 4-2 through 4-9 indicate there is so much capacity available on the roads serving the intermodal terminals, that congestion, with the addition of traffic associated with the Action Alternatives, creates negative traffic effects at only five intersections, out of more than 100 analyzed (Table 4-8). Proposed adjustments to traffic signal phasing will make traffic operations at those five locations acceptable (i.e., the volume will not exceed capacity). These signal timing changes will not negatively affect traffic-dependent businesses (e.g., gas stations, restaurants, and the like).

It is also noted that the intersection of Wyoming Avenue and Michigan Avenue does not align with Wyoming at I-94, thereby forcing vehicles in the right lane of northbound Wyoming to turn right onto Michigan. This limits northbound through traffic to one lane. Wyoming at Michigan is forecast to be over capacity in the peak periods by 2025. This can be corrected by adding left-turn signal phases. Consideration should be given by MDOT to realign this intersection, but the DIFT does not require this change.

In all Action Alternatives, the interchange of I-94 with Livernois would be improved. The westbound off- and on-ramps would be repositioned (Figure 4-1a). This is not a capacity improvement but one to cause better use of this interchange and Livernois Avenue to reach the Livernois-Junction Yard. The westbound off-ramp is so tight that intermodal trucks (and other large trucks) often avoid using it and Livernois Avenue. Instead, many of the trucks use the service drive along the north side of I-94 west of Livernois Avenue to get to Central Avenue and then cut through the neighborhood to reach John Kronk Street.

Table 4-1d
Relationship of Lifts to Truck Movements

Terminal[a]	Lifts in 2002	Truck Trips in 2002	Ratio
1	60,000	147,500	2.46
2	55,000	77,750	1.41
3	83,000	97,050	1.17
4	77,000	100,750	1.31
5	25,000	35,500	1.42
6	48,000	94,000	1.96
Total	348,000	552,550	1.59

[a]Terminal's owner/operator is not identified at the railroads' request in light of proprietary interests.
Source: AVT and The Corradino Group of Michigan, Inc.

Table 4-2
Detroit Intermodal Freight Terminal Project
2025 Truck Traffic (Two-way Trips)
Alternative 2: Improve/Expand

	Annual Lifts		Daily Two-way Truck Trips	
Terminal[a]	Low	High	Low	High
W	402,300	503,700	1,800	2,250
X	50,700	63,500	200	250
Y	156,500	195,800	560	700
Z	97,500	122,000	520	650
Total	707,000	885,000	3,080	3,850

[a]Terminal's owner/operator is not identified at the railroads' request in light of proprietary interests.
Source: The Corradino Group of Michigan, Inc.

Table 4-3
Detroit Intermodal Freight Terminal Project
2025 Truck Traffic (Two-way Trips)
Alternative 3: Consolidate

	Annual Lifts		Daily Two-way Truck Trips		Terminal
Terminal[a]	Low	High	Low	High	Gate/Entrance
A	103,600	158,300	560	850	1
B	220,400	336,500	810	1,230	2
C	129,700	197,900	870	1,330	5
D1	179,400	273,900	570	880	3
D2	118,900	181,400	460	700	4
Total	752,000	1,148,000	3,270	4,990	

[a]Terminal's owner/operator is not identified at the railroads' request in light of proprietary interests.
Source: The Corradino Group of Michigan, Inc.

Table 4-4
Detroit Intermodal Freight Terminal Project
2025 Traffic Forecast
Annual Lifts and Daily Two-way Truck Trips
Alternative 4: The Composite Option

Terminal[a]	Annual Lifts		Daily Two-way Truck Trips		Terminal Gate/Entrance
	Low	High	Low	High	
A	97,500	122,000	520	650	Eight Mile Road @ Fairgrounds
B	206,200	324,000	760	1,190	2
C	121,300	190,600	810	1,270	5
D1	168,000	264,000	530	830	3
D2	111,000	174,400	430	680	4
Total	704,000	1,075,000	3,050	4,620	

[a]Terminal's owner/operator is not identified at the railroads' request in light of proprietary interests.
Source: The Corradino Group of Michigan, Inc.

Table 4-5
Detroit Intermodal Freight Terminal Project
2025 Traffic Forecast
Daily Two-way Truck Trips
Alternative 2: Expand/Improve Existing Terminals
Livernois-Junction Yard

Summary

Principal Access	Option A		Option B		Option C	
	Original	Revised	Original	Revised	Original	Revised
Wyoming	NA	NA	680	1,710	0	NA
Livernois	1,220	NA	1,570	540	2,250	NA
Waterman/Dix/Vernor	1,030	NA	NA	NA	NA	NA

Source: The Corradino Group of Michigan, Inc.

Table 4-6
Detroit Intermodal Freight Terminal Project
2025 Traffic Forecast
Daily Two-way Truck Trips
Alternative 3: Consolidate All Four RRs
Livernois-Junction Area

Terminal[a]	Daily Two-way Truck Trips		Terminal Gate/Entrance	Principal Access	
	Low	High		Original	Revised
A	560	850	1	Wyoming	Wyoming
B	810	1,230	2	Wyoming	Wyoming
C	870	1,330	5	Wyoming	Wyoming
D1	570	880	3	Livernois	Wyoming
D2	460	700	4	Livernois	Livernois
Total	3,270	4,990			

[a]Terminal's owner/operator is not identified at the railroads' request in light of proprietary interests.

Summary

Principal Access	Original	Revised
Wyoming	3,410	4,290
Livernois	1,580	700

Source: The Corradino Group of Michigan, Inc.

Table 4-7
Detroit Intermodal Freight Terminal Project
2025 Traffic Forecast
Daily Two-way Truck Trips
Alternative 4: Consolidate Three RRs at Livernois-Junction Area and Expand CN/Moterm at Fairgrounds

Terminal[a]	Annual Lifts		Daily Two-Way Truck Trips		Terminal Gate/Entrance	Principal Access	
	Low	High	Low	High		Original	Revised
A	97,500	122,000	520	650	Eight Mile Road	Eight Mile Road	Eight Mile Road
B	206,200	324,000	760	1,190	2	Wyoming	Wyoming
C	121,300	190,600	810	1,270	5	Wyoming	Wyoming
D1	168,000	264,000	530	830	3	Livernois	Wyoming
D2	111,000	174,400	430	680	4	Livernois	Livernois
Total	704,000	1,075,000	3,050	4,620			

[a]Terminal's owner/operator is not identified at the railroads' request in light of proprietary interests.

Summary

Principal Access	Original	Revised
Wyoming	2,460	3,290
Livernois	1,510	680

Source: The Corradino Group of Michigan, Inc.

Table 4-8
Proposed Traffic Operations Improvements at Key Intersections[a]

Terminal	Location	Alternative	Proposed Action
Livernois-Junction Yard	Michigan and Livernois Michigan and Wyoming I-94 EB Off-ramp at Wyoming	2A, 2B, 2C, 3, 4 2B, 3, 4 3, 4	Add left-turn signal phase to all approaches to intersection
CP/Expressway	Rosa Parks and Michigan	2	Add left-turn signal phase to all approaches to intersection
CP/Oak	Schoolcraft and Evergreen	2	Add left-turn signal phase to all approaches to intersection

[a]Other intersections in the project area may experience problems with capacity or poor service, but those conditions are not caused by DIFT traffic.
Source: The Corradino Group of Michigan, Inc.

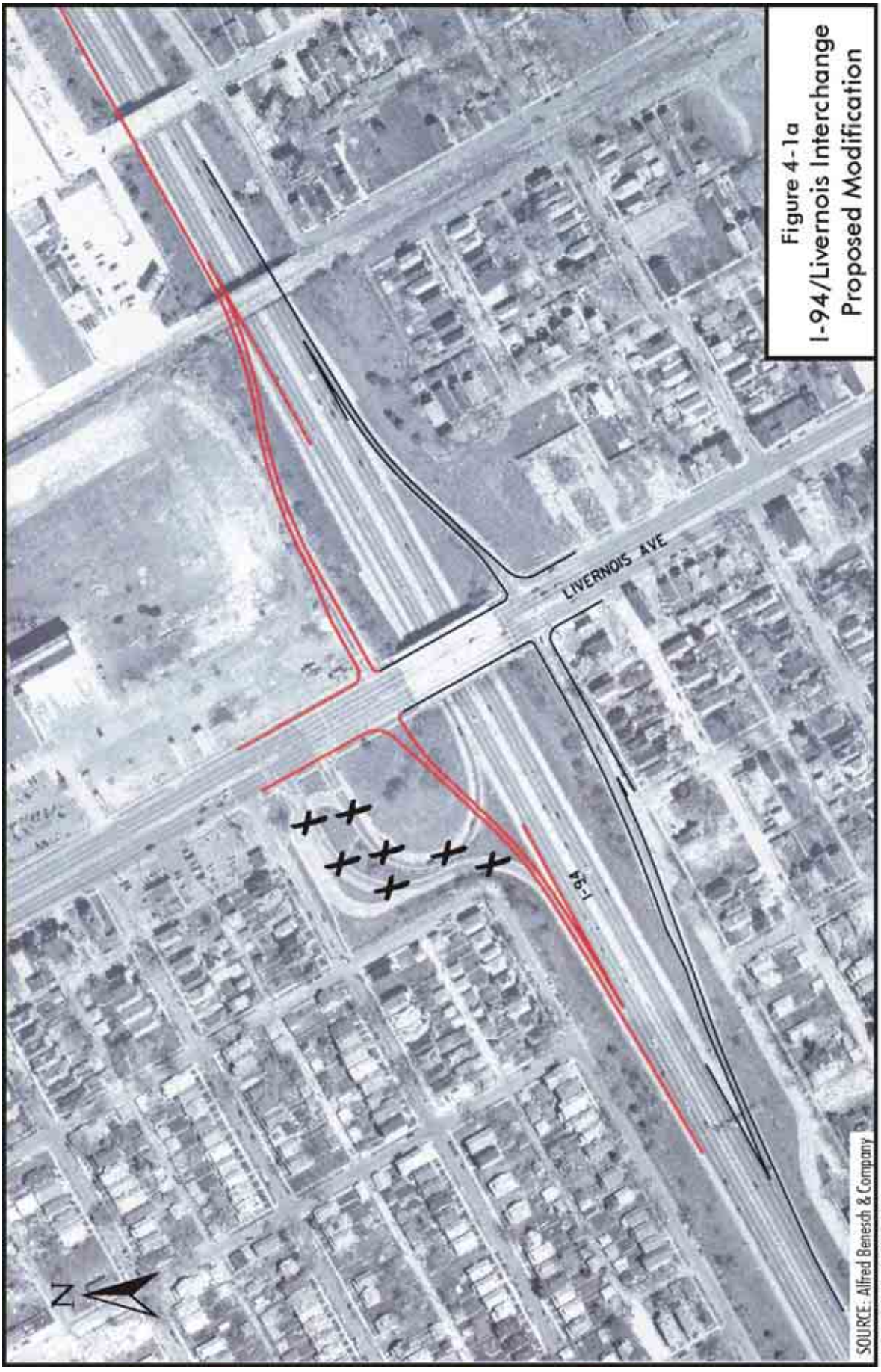
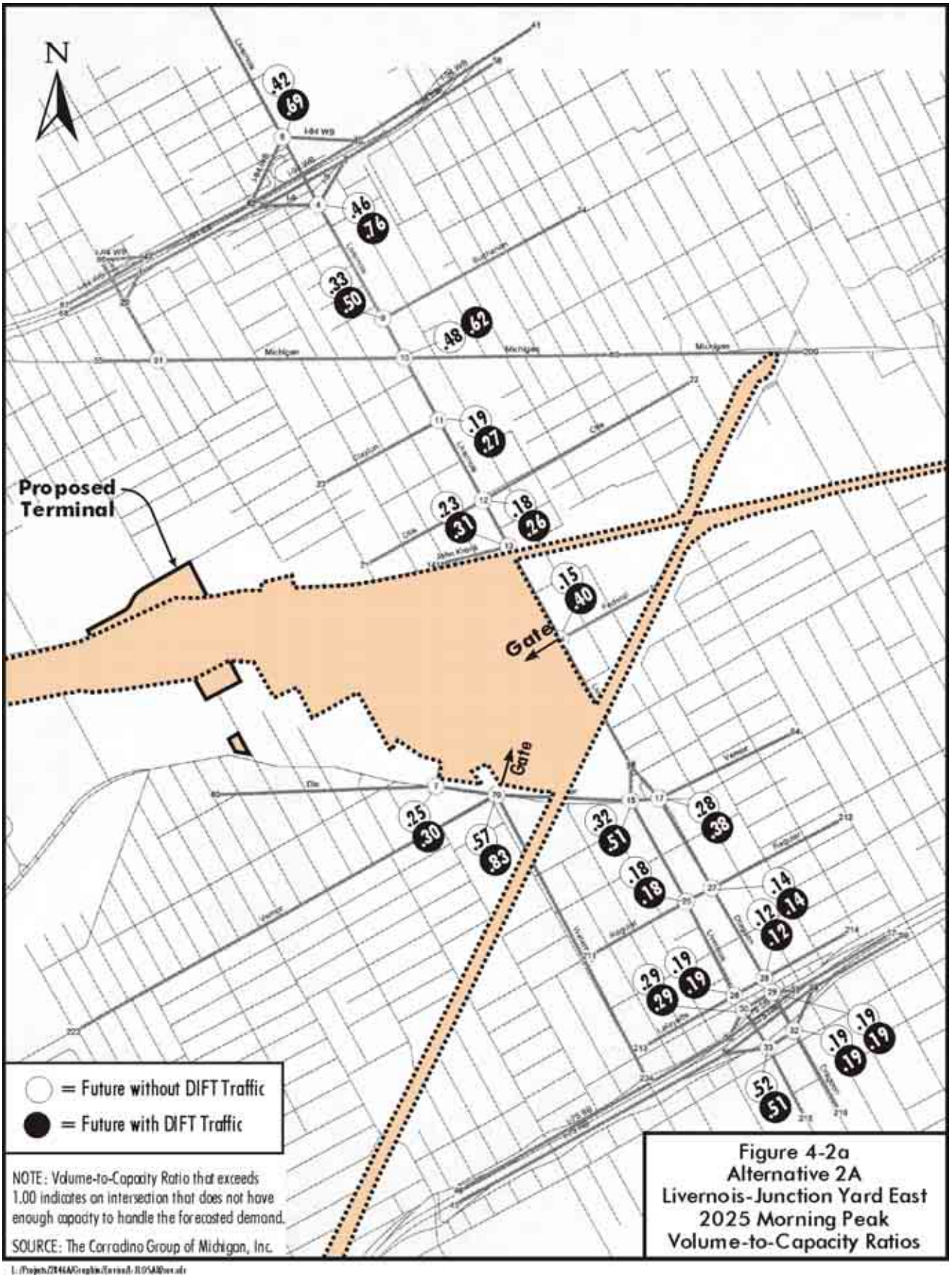


Figure 4-1a
I-94/Livernois Interchange
Proposed Modification
LIVERNOIS AVE
I-94
N
SOURCE: Alfred Benesch & Company


N
.42
.69
.46
.76
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.50
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.62
.19
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.23
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Proposed Terminal
Gate
Gate
.25
.30
.57
.83
.32
.51
.28
.38
.18
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.14
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.29
.29
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.19
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.52
.51
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
SOURCE: The Corradino Group of Michigan, Inc.
Figure 4-2a
Alternative 2A
Livernois-Junction Yard East
2025 Morning Peak
Volume-to-Capacity Ratios

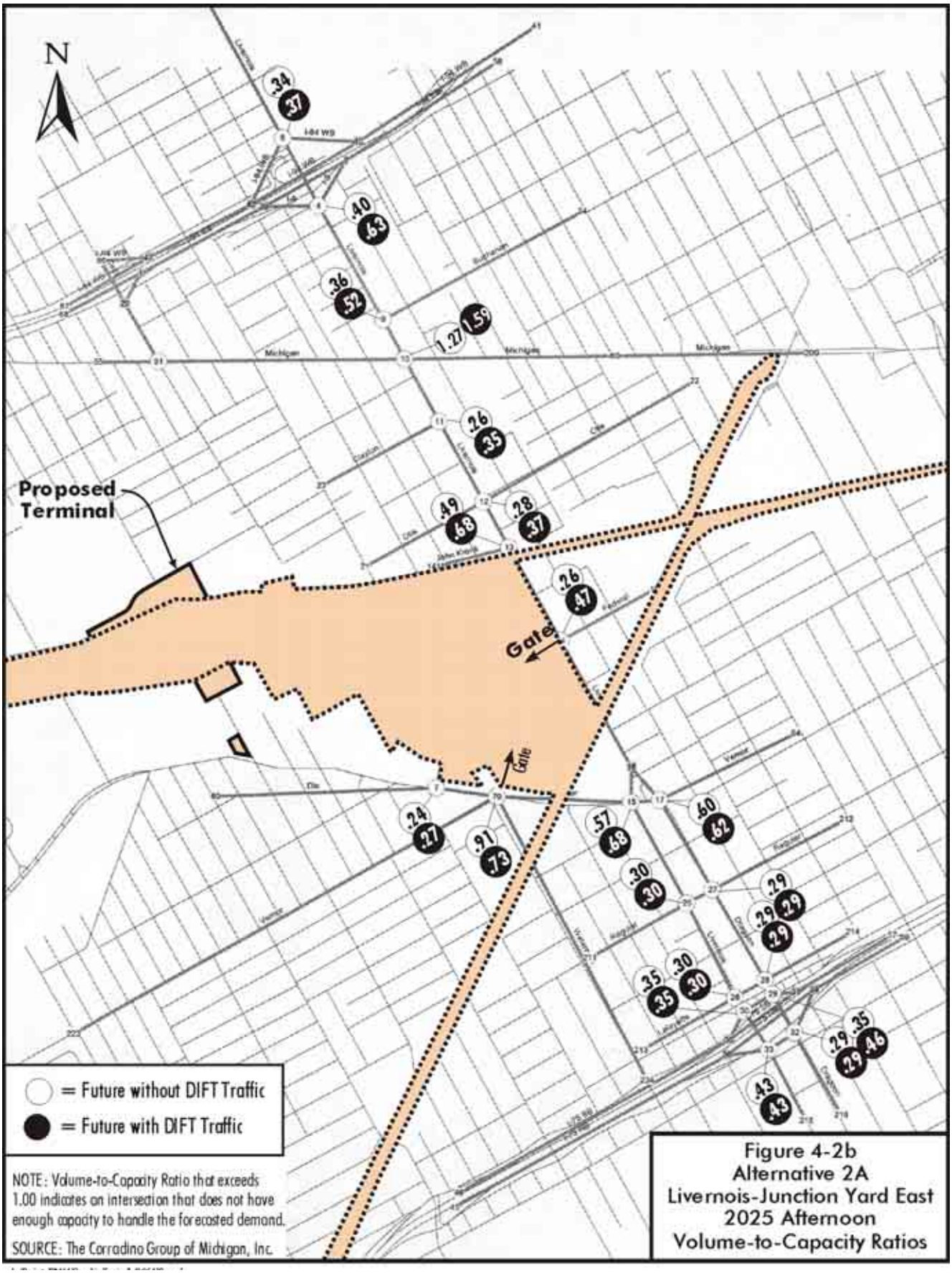
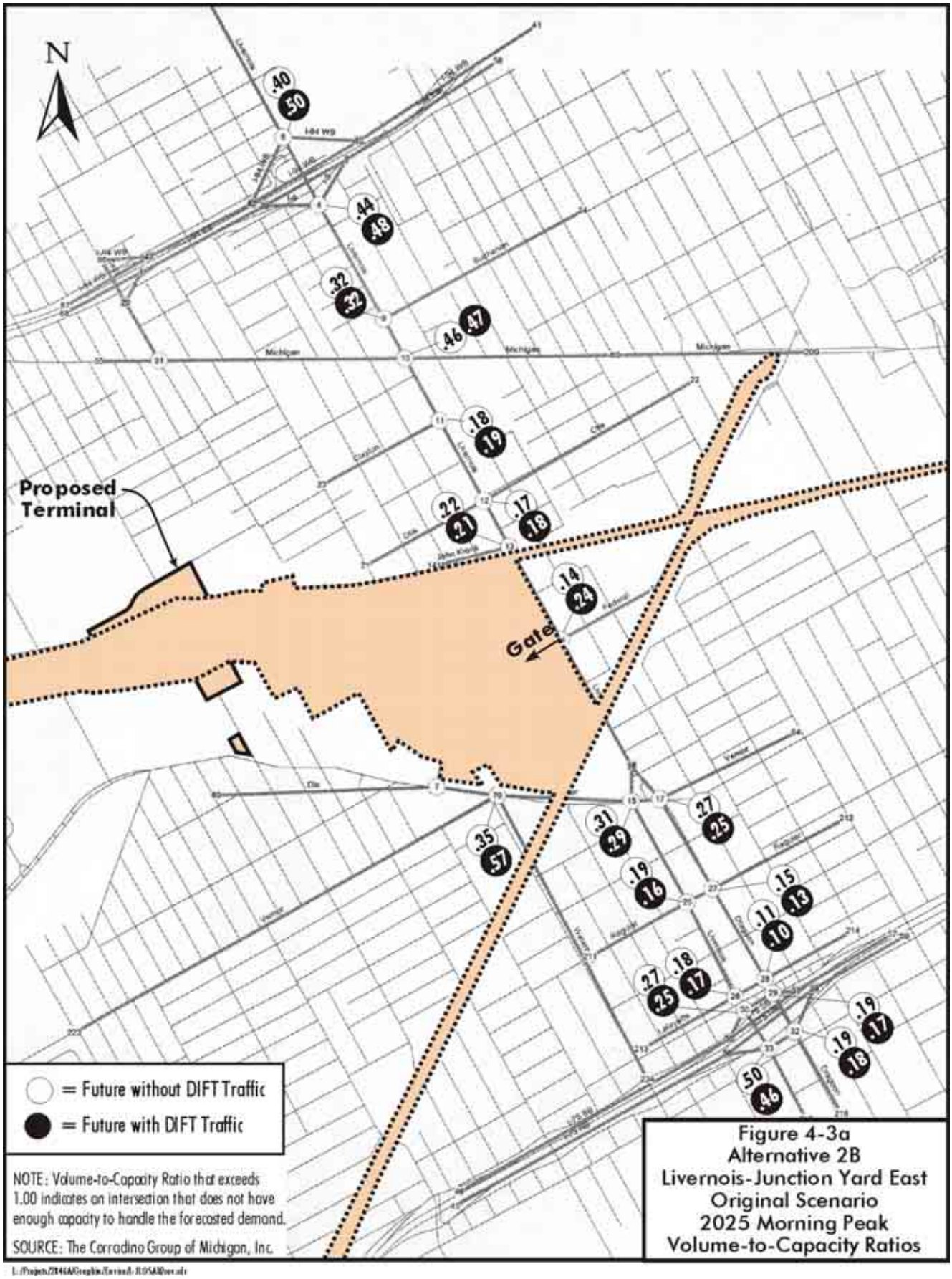
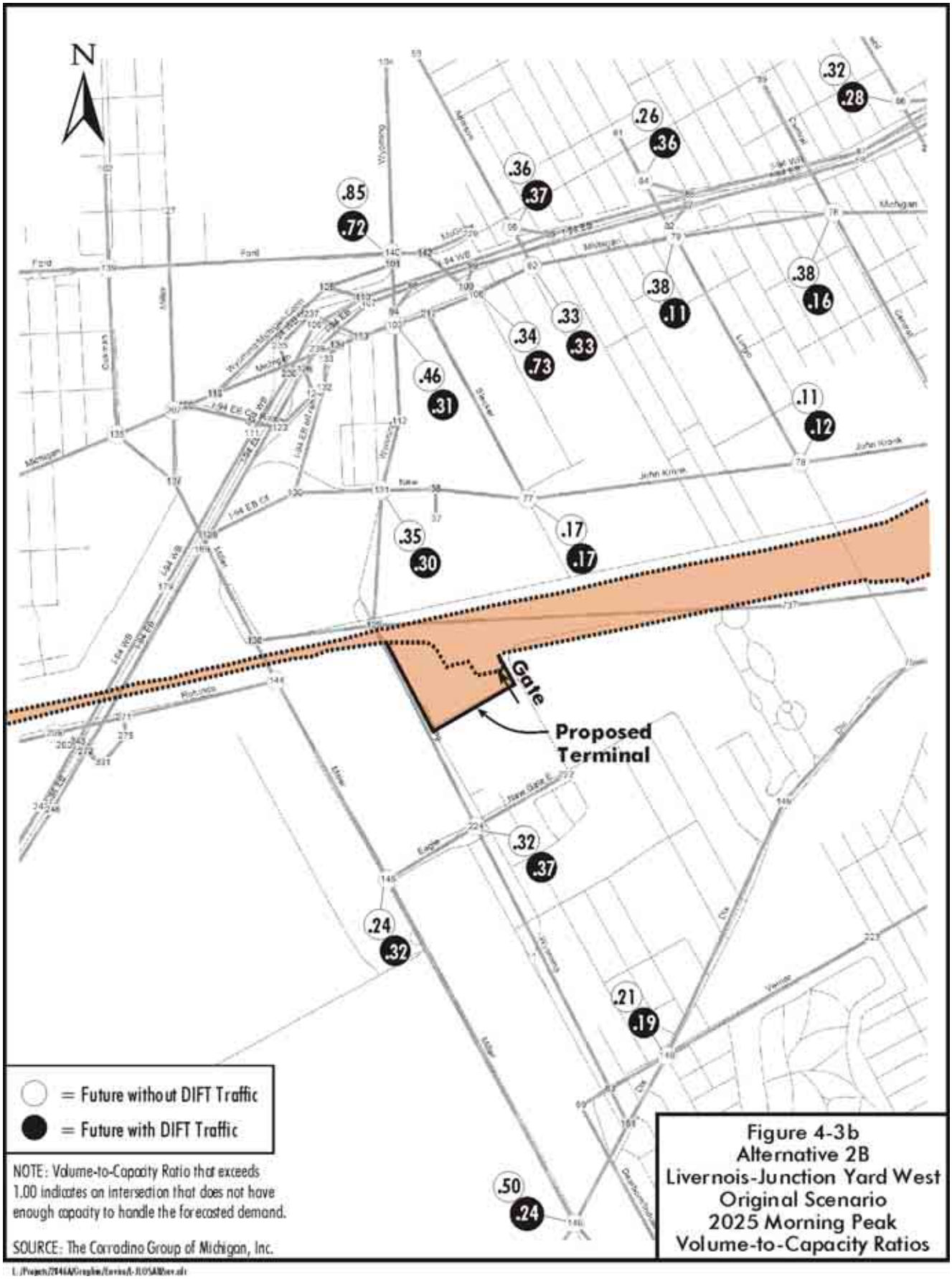


Figure 4-2b
Alternative 2A
Livernois-Junction Yard East
2025 Afternoon
Volume-to-Capacity Ratios


N
Proposed Terminal
Gate
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
SOURCE: The Corradino Group of Michigan, Inc.
Figure 4-3a
Alternative 2B
Livernois-Junction Yard East
Original Scenario
2025 Morning Peak
Volume-to-Capacity Ratios


N
.85
.72
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.37
.26
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.32
.28
.46
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.34
.73
.33
.33
.38
.11
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.12
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.17
Gate
Proposed Terminal
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.37
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= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
SOURCE: The Corradino Group of Michigan, Inc.
Figure 4-3b
Alternative 2B
Livernois-Junction Yard West
Original Scenario
2025 Morning Peak
Volume-to-Capacity Ratios

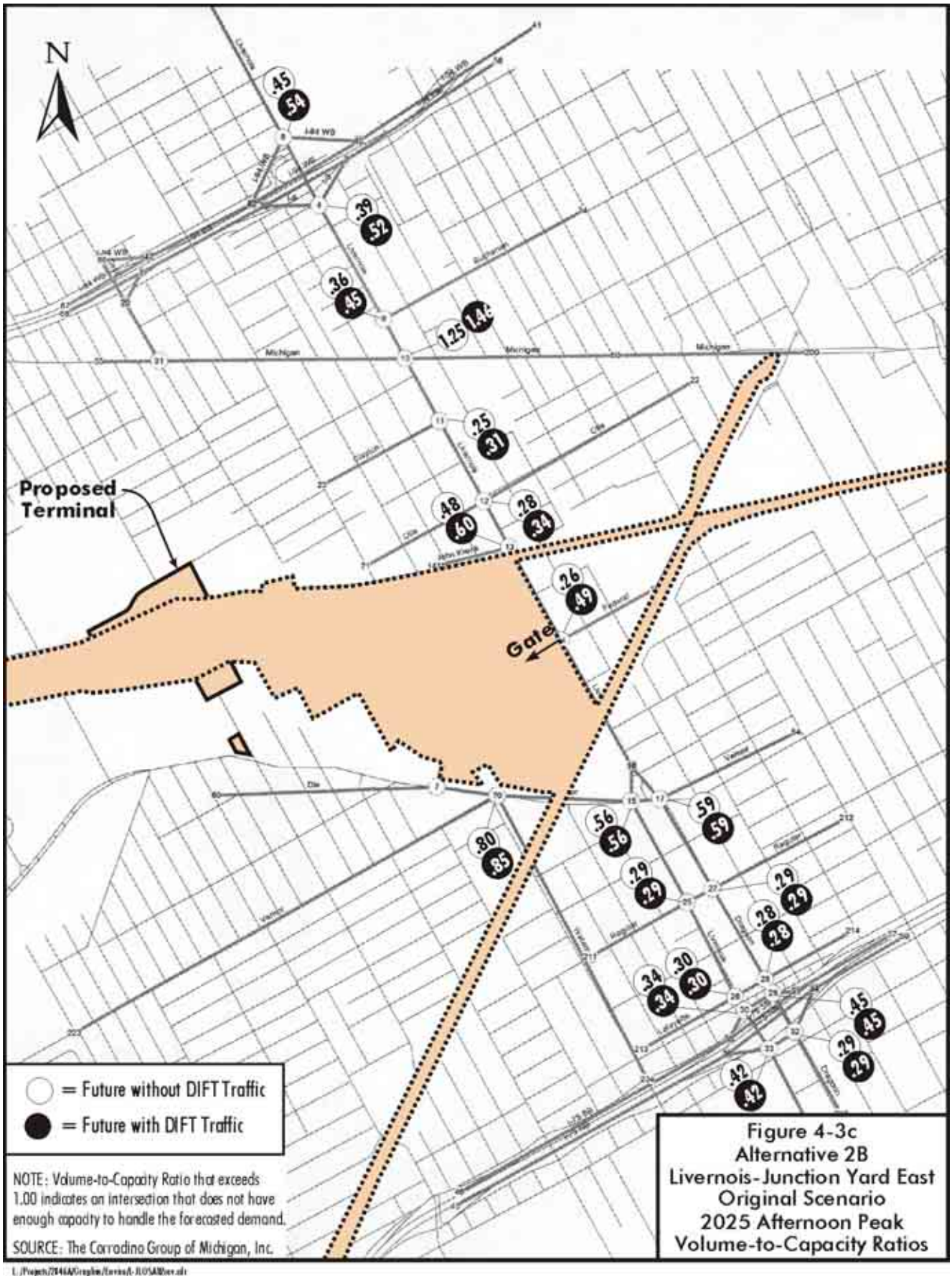


Figure 4-3c
Alternative 2B
Livernois-Junction Yard East
Original Scenario
2025 Afternoon Peak
Volume-to-Capacity Ratios

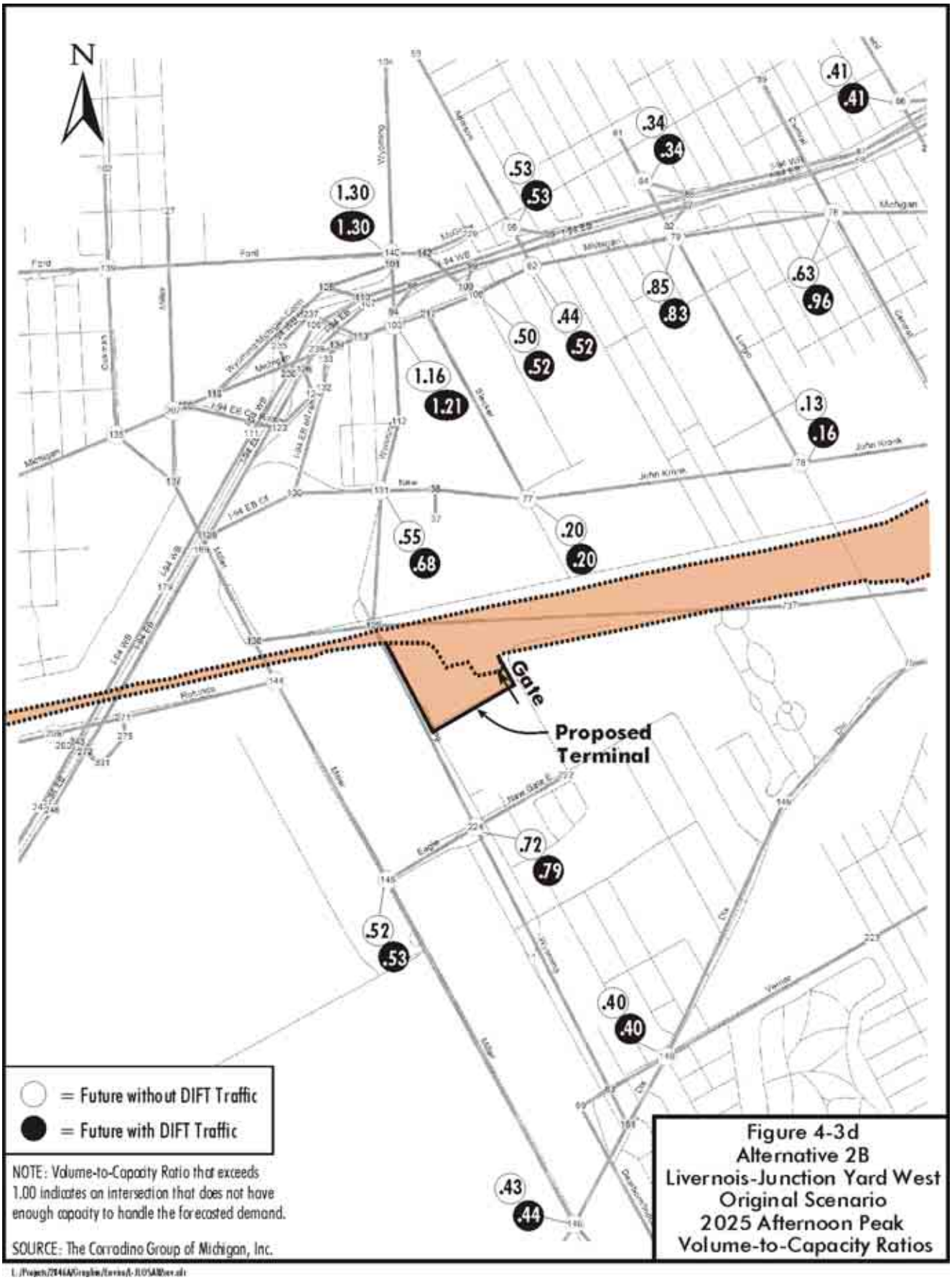


Figure 4-3d
Alternative 2B
Livernois-Junction Yard West
Original Scenario
2025 Afternoon Peak
Volume-to-Capacity Ratios

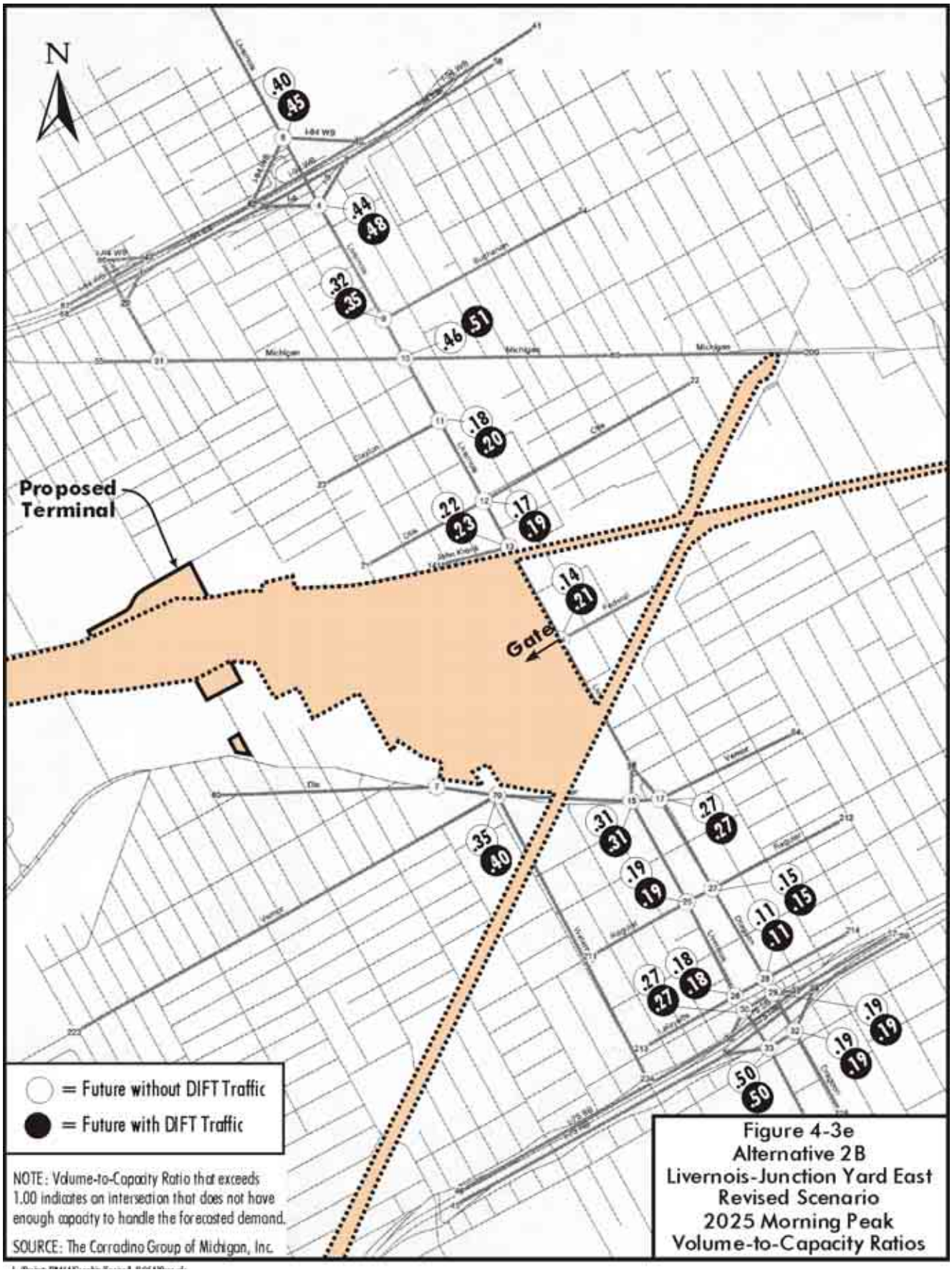
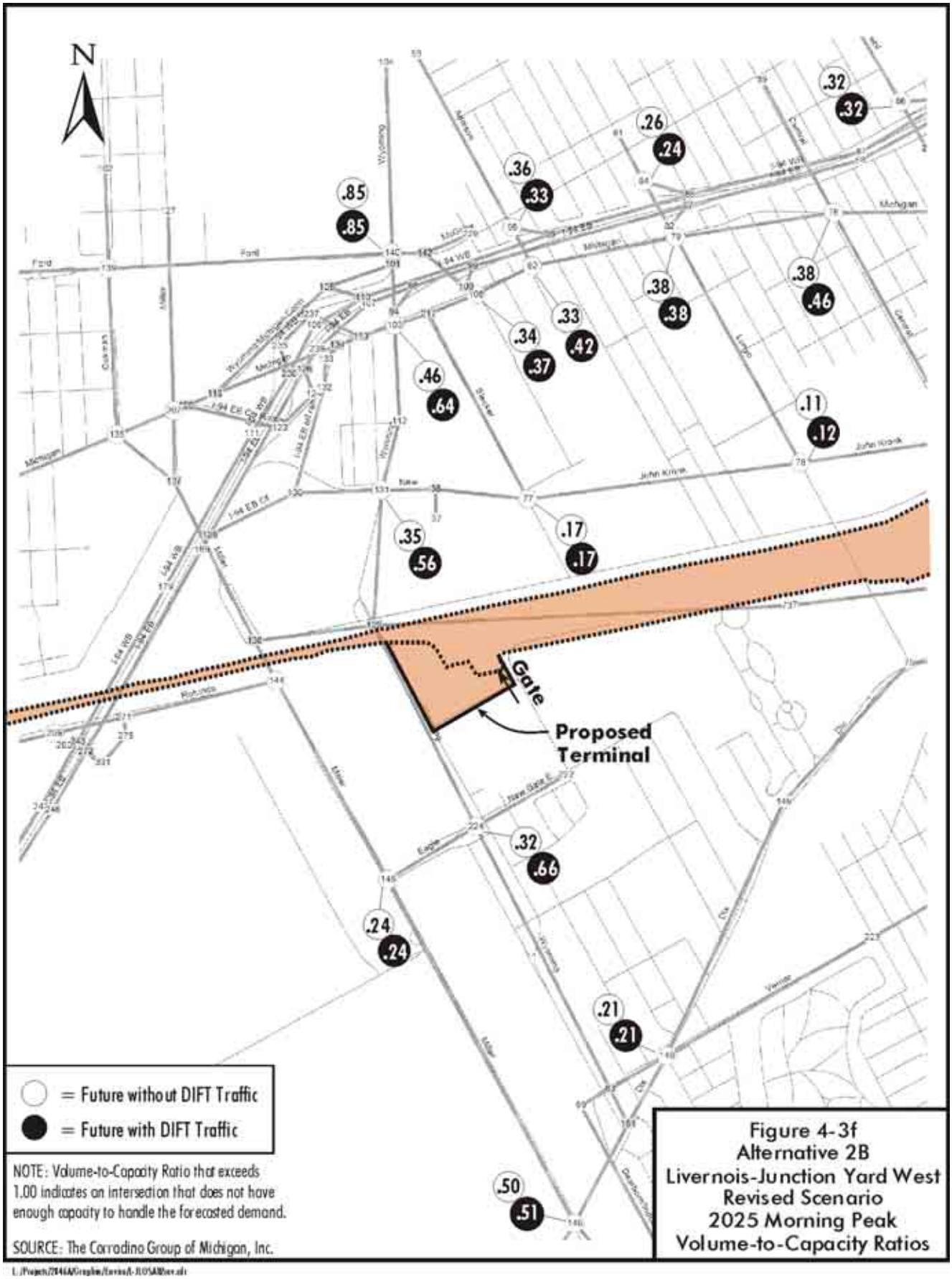


Figure 4-3e
Alternative 2B
Livernois-Junction Yard East
Revised Scenario
2025 Morning Peak
Volume-to-Capacity Ratios


N
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Gate
Proposed Terminal
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= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
SOURCE: The Corradino Group of Michigan, Inc.
Figure 4-3f
Alternative 2B
Livernois-Junction Yard West
Revised Scenario
2025 Morning Peak
Volume-to-Capacity Ratios

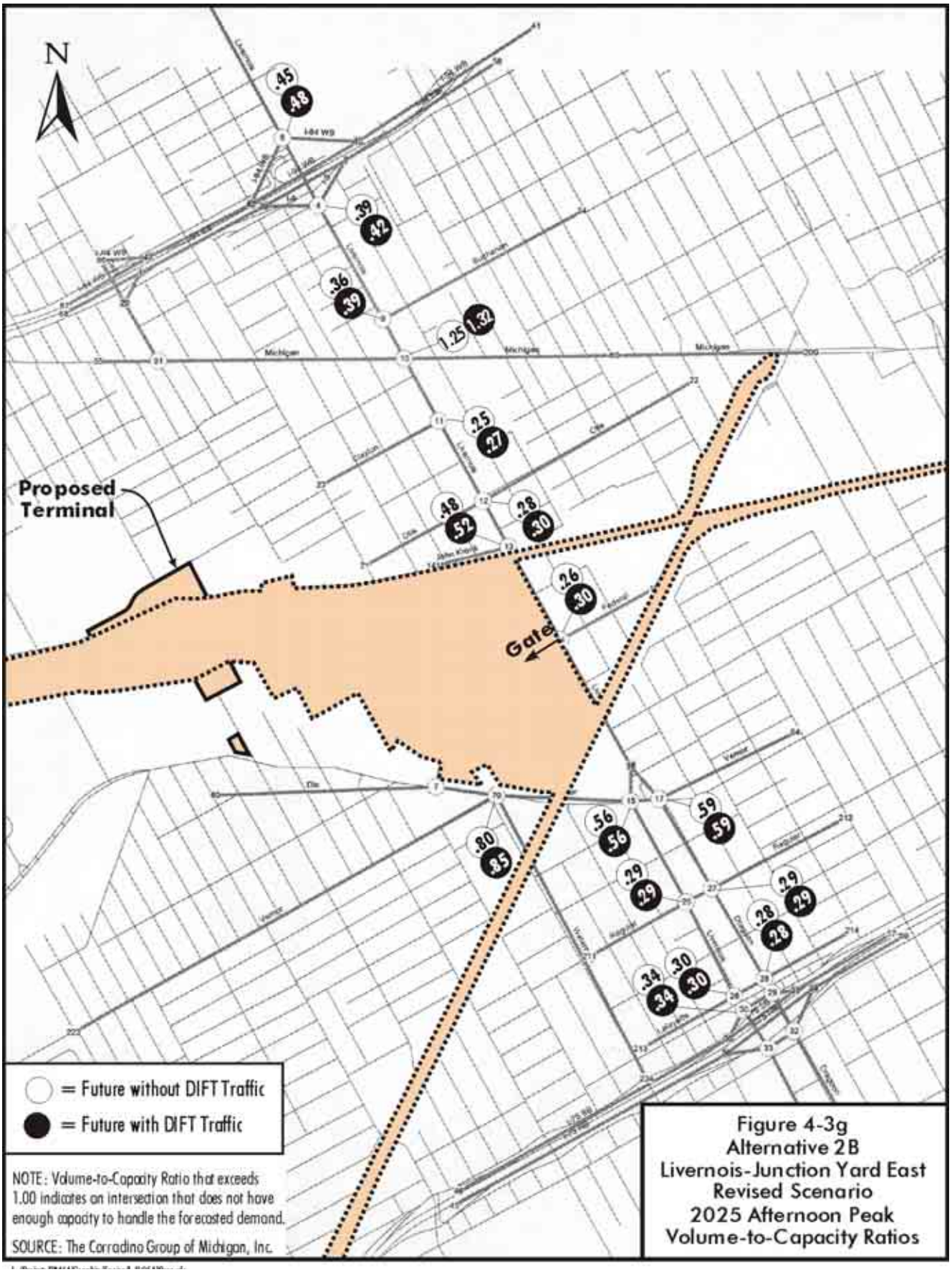
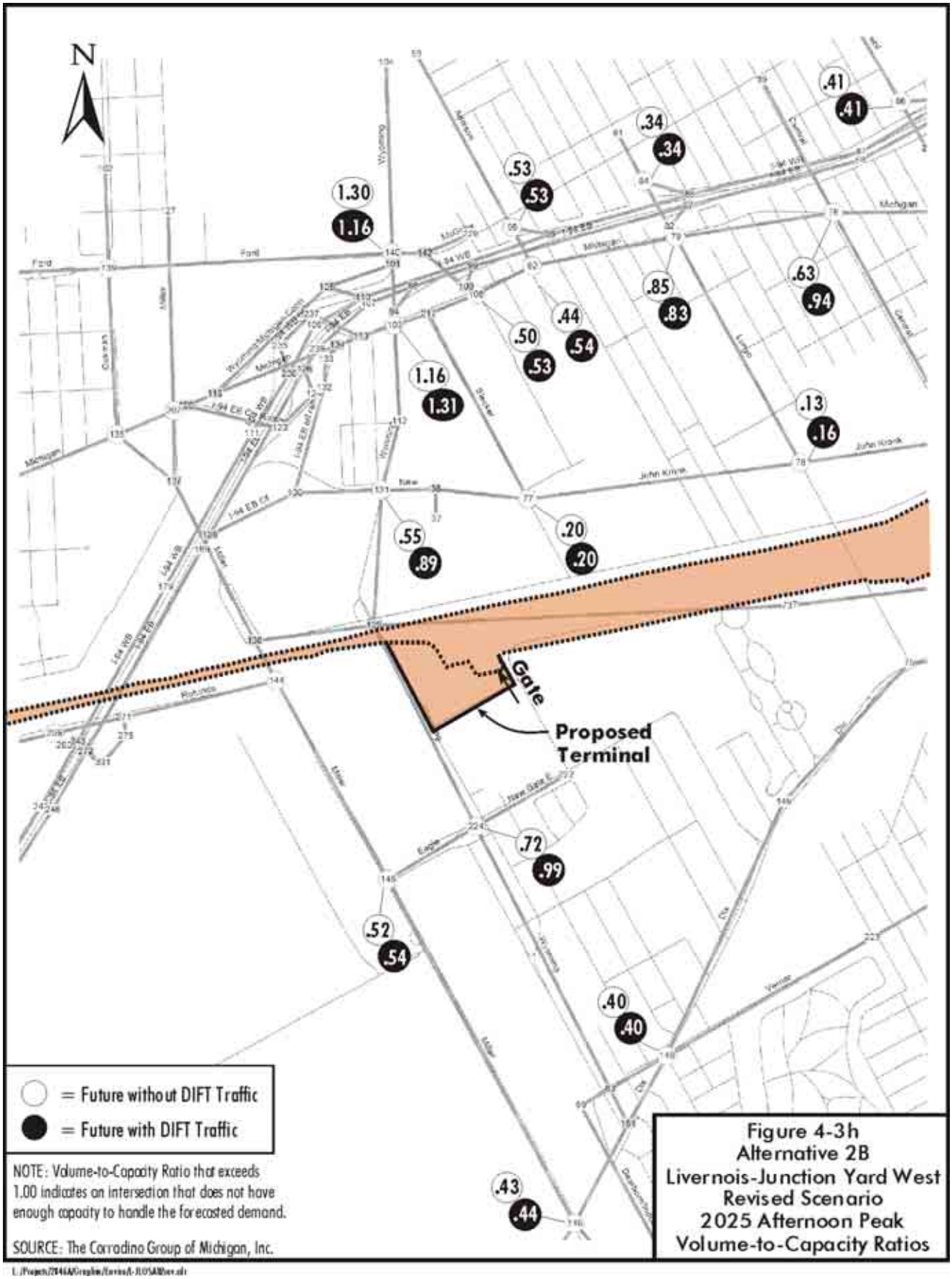


Figure 4-3g
Alternative 2B
Livernois-Junction Yard East
Revised Scenario
2025 Afternoon Peak
Volume-to-Capacity Ratios


N
1.30
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Gate
Proposed Terminal
.72
.99
.52
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.40
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.43
.44
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
SOURCE: The Corradino Group of Michigan, Inc.
Figure 4-3h
Alternative 2B
Livernois-Junction Yard West
Revised Scenario
2025 Afternoon Peak
Volume-to-Capacity Ratios

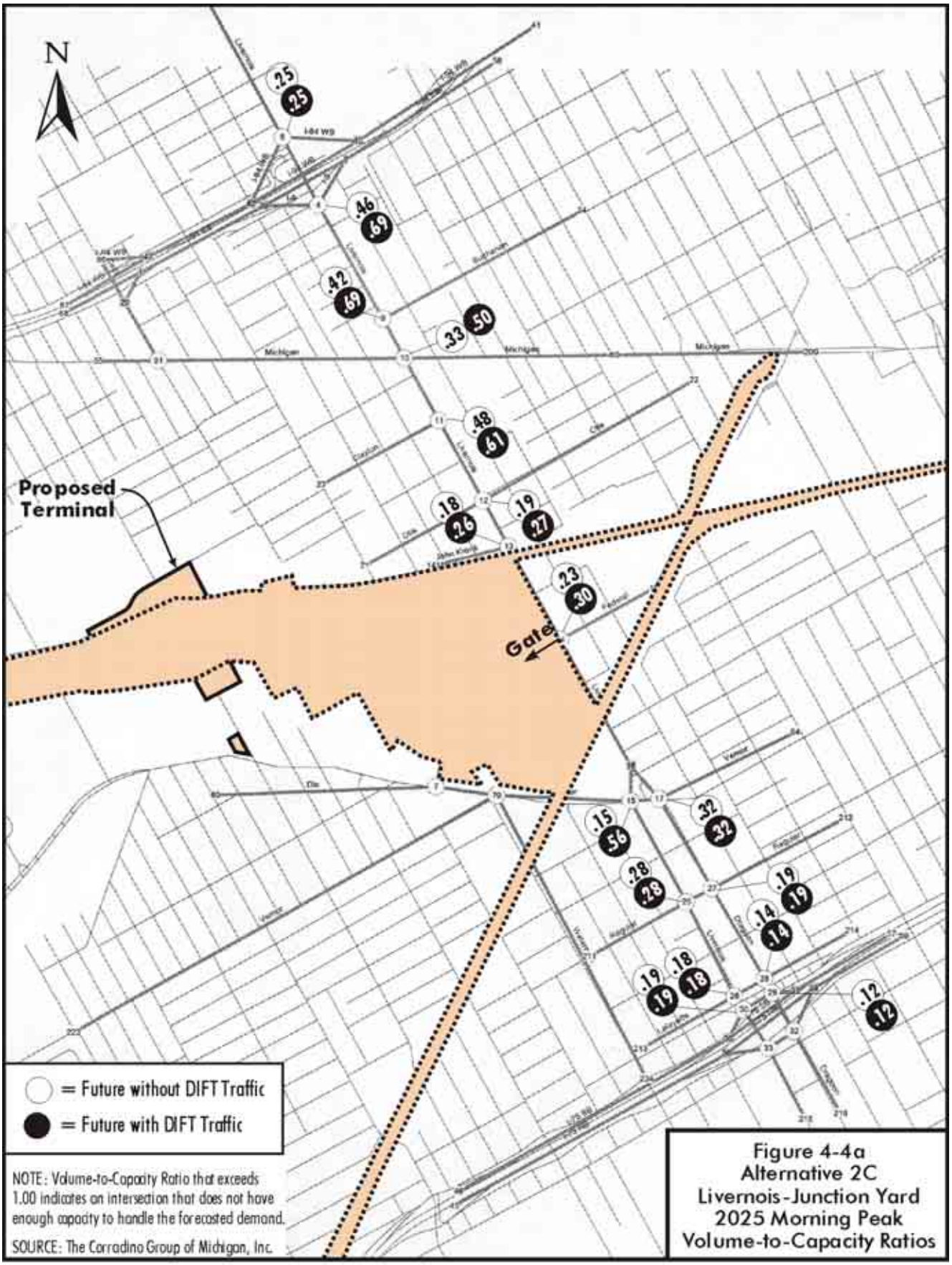
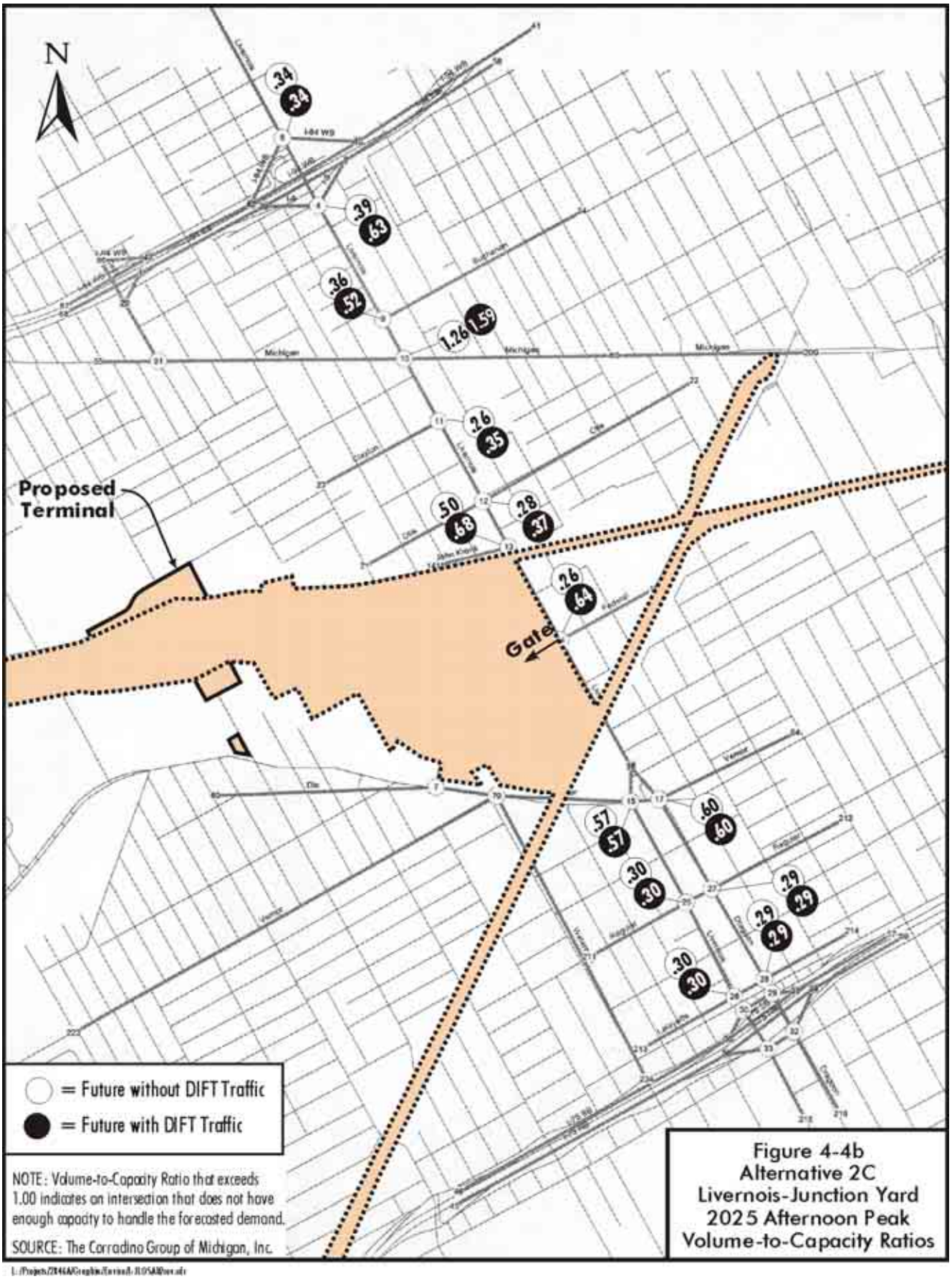


Figure 4-4a
Alternative 2C
Livernois-Junction Yard
2025 Morning Peak
Volume-to-Capacity Ratios


N
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.37
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Proposed Terminal
Gate
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.30
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
SOURCE: The Corradino Group of Michigan, Inc.
Figure 4-4b
Alternative 2C
Livernois-Junction Yard
2025 Afternoon Peak
Volume-to-Capacity Ratios

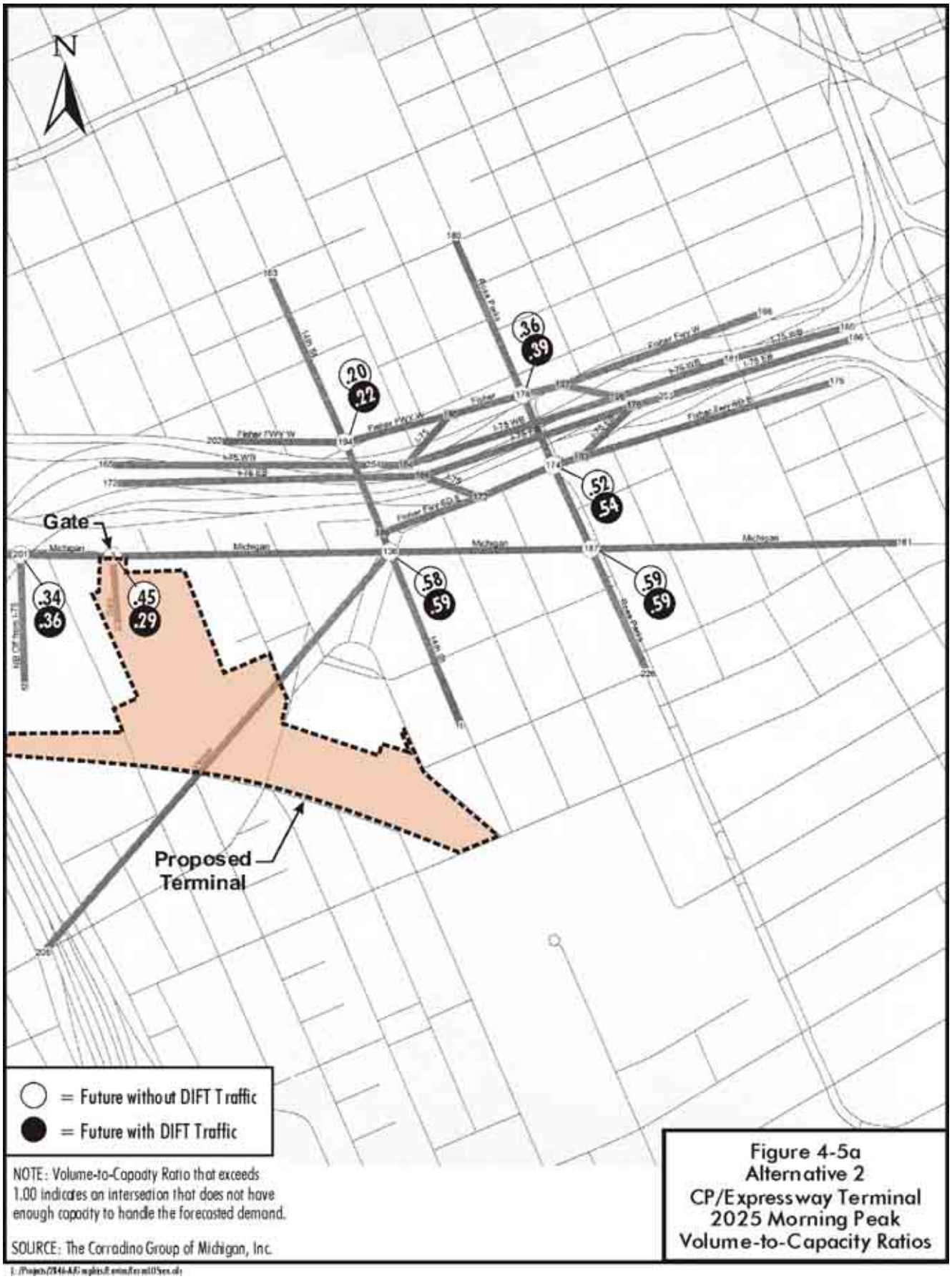
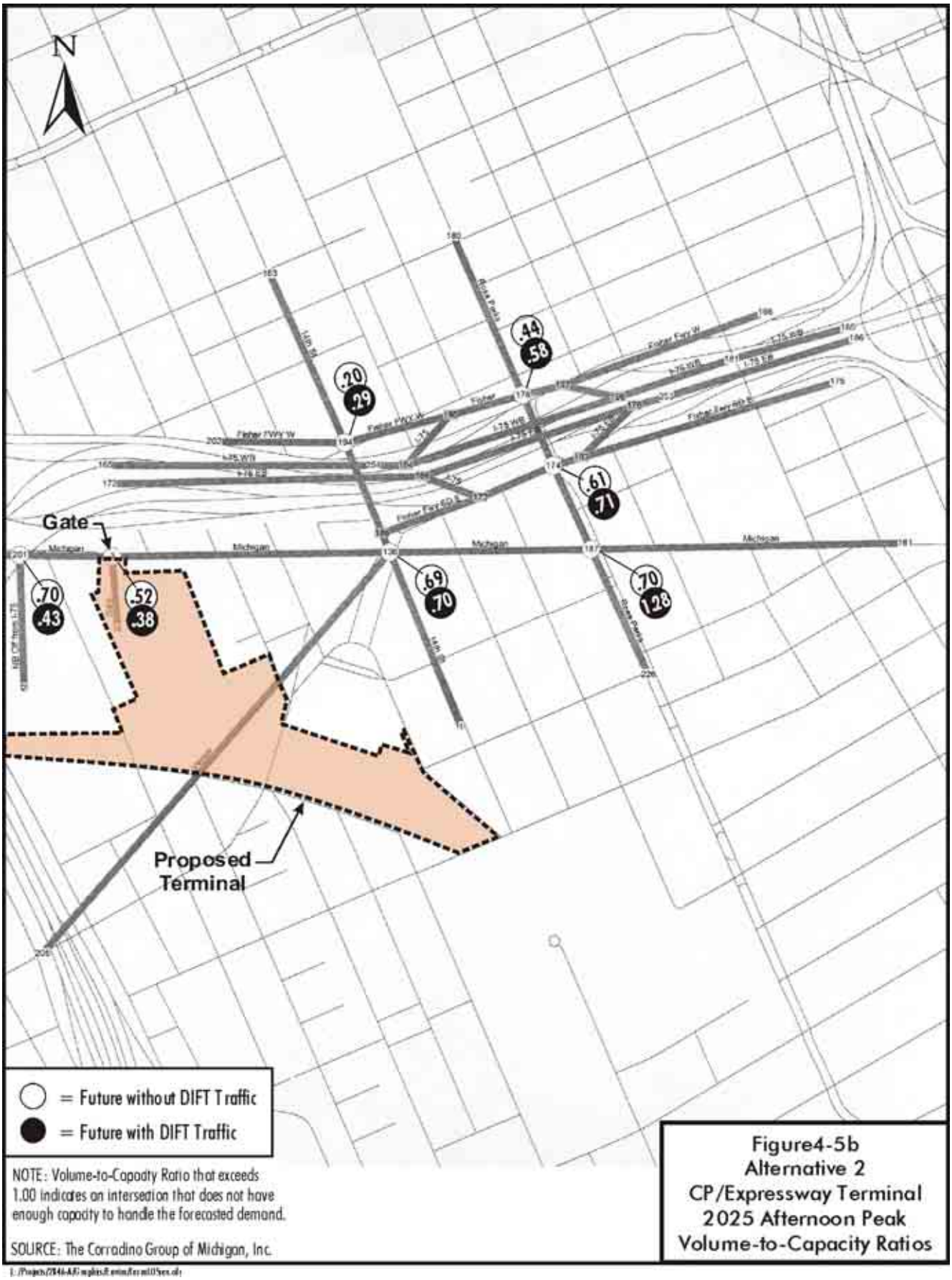


Figure 4-5a
Alternative 2
CP/Expressway Terminal
2025 Morning Peak
Volume-to-Capacity Ratios


N
Gate
Proposed Terminal
.20
.29
.44
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.61
.71
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.70
1.28
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
SOURCE: The Corradino Group of Michigan, Inc.
Figure4-5b
Alternative 2
CP/Expressway Terminal
2025 Afternoon Peak
Volume-to-Capacity Ratios

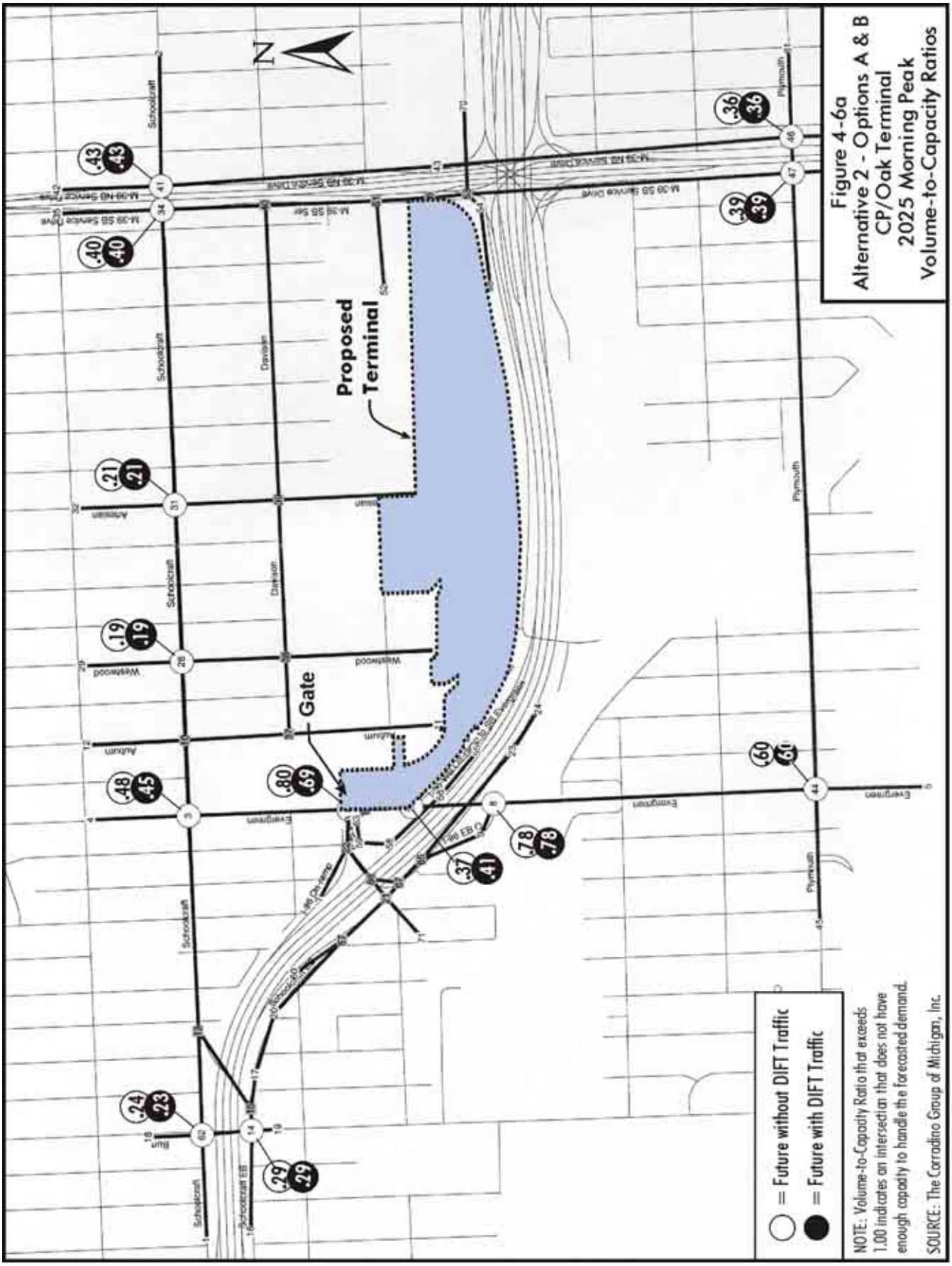


Figure 4-6a
Alternative 2 - Options A & B
CP/Oak Terminal
2025 Morning Peak
Volume-to-Capacity Ratios
Proposed Terminal
Gate
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
SOURCE: The Corradino Group of Michigan, Inc.

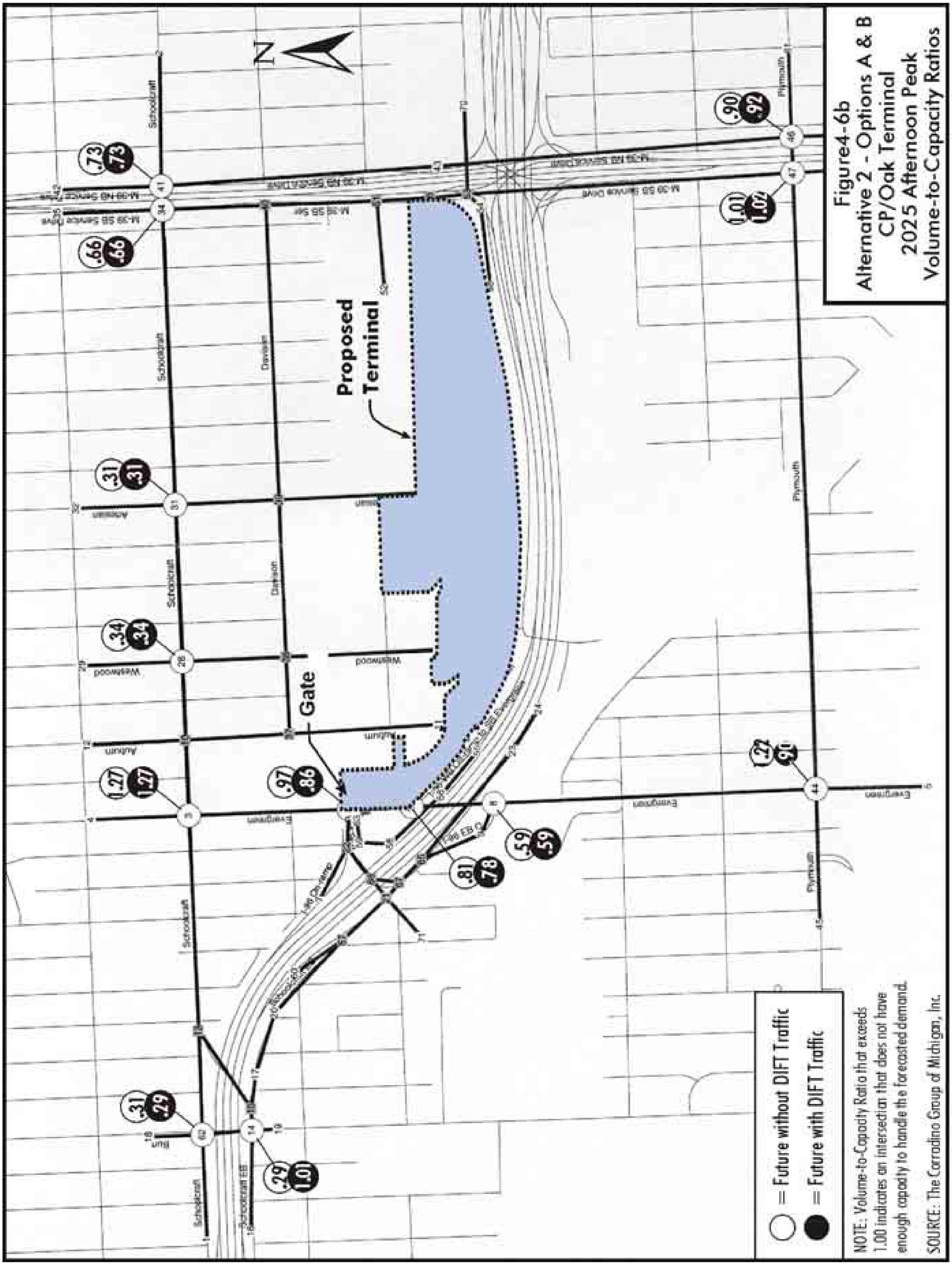
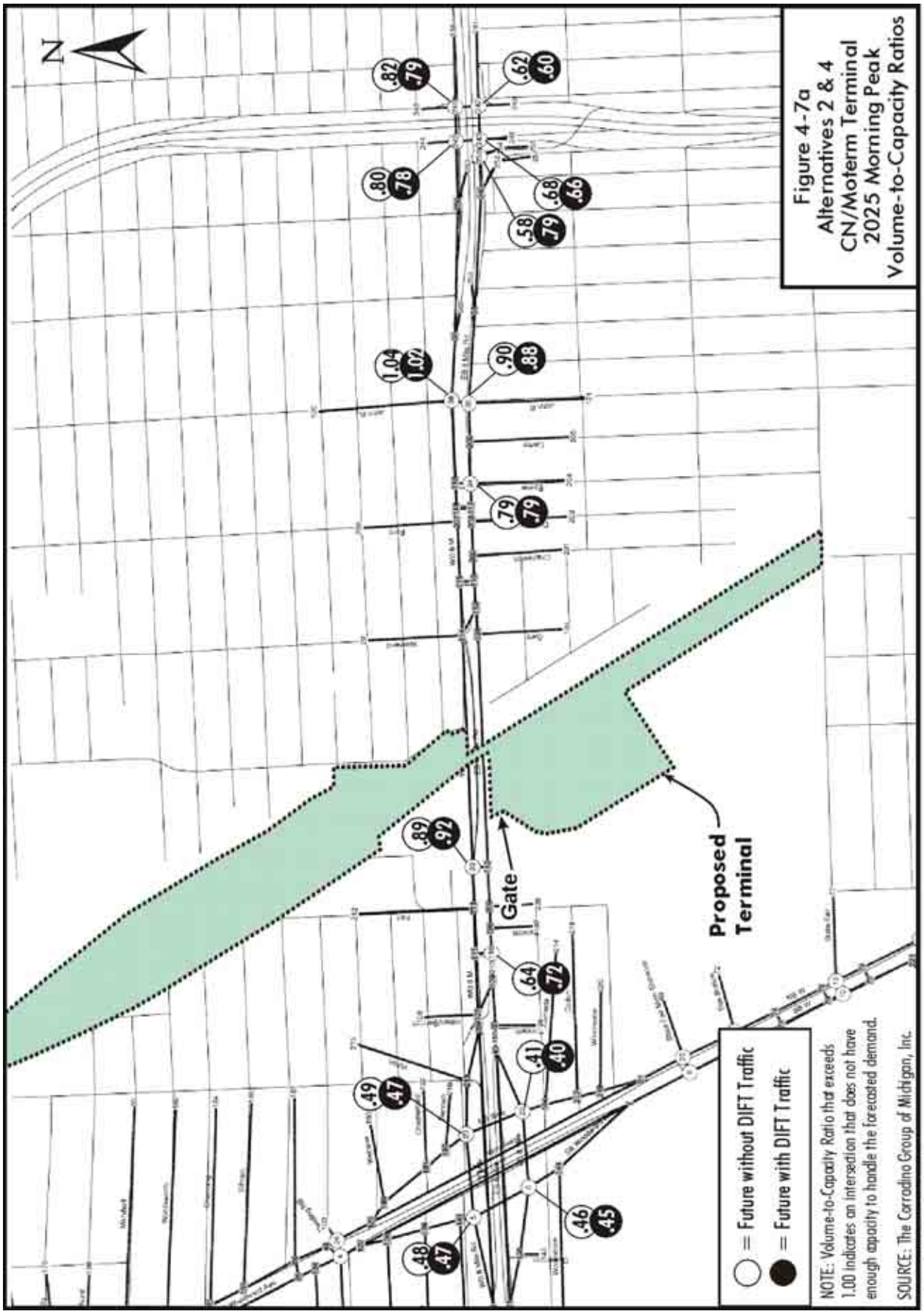
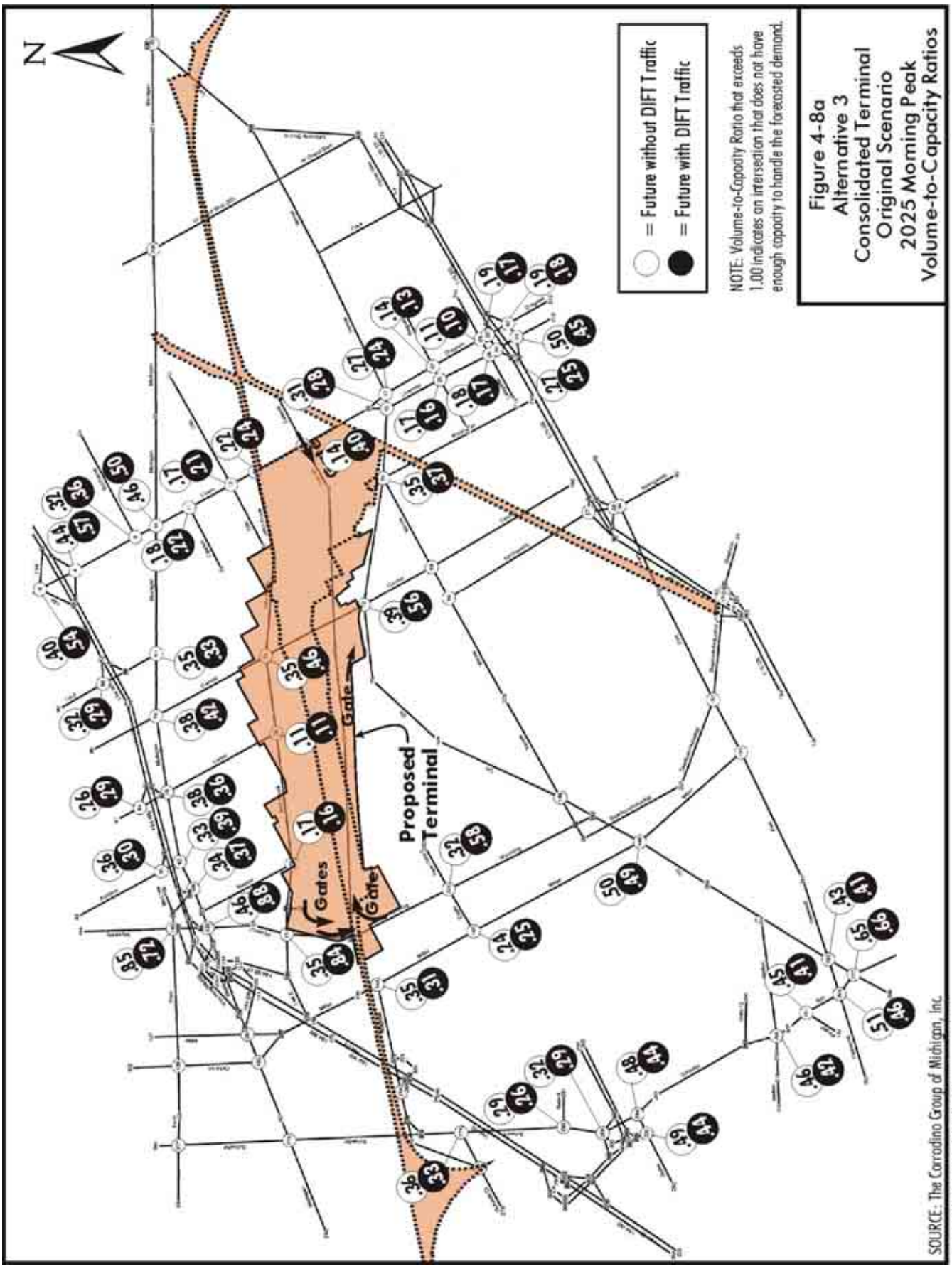
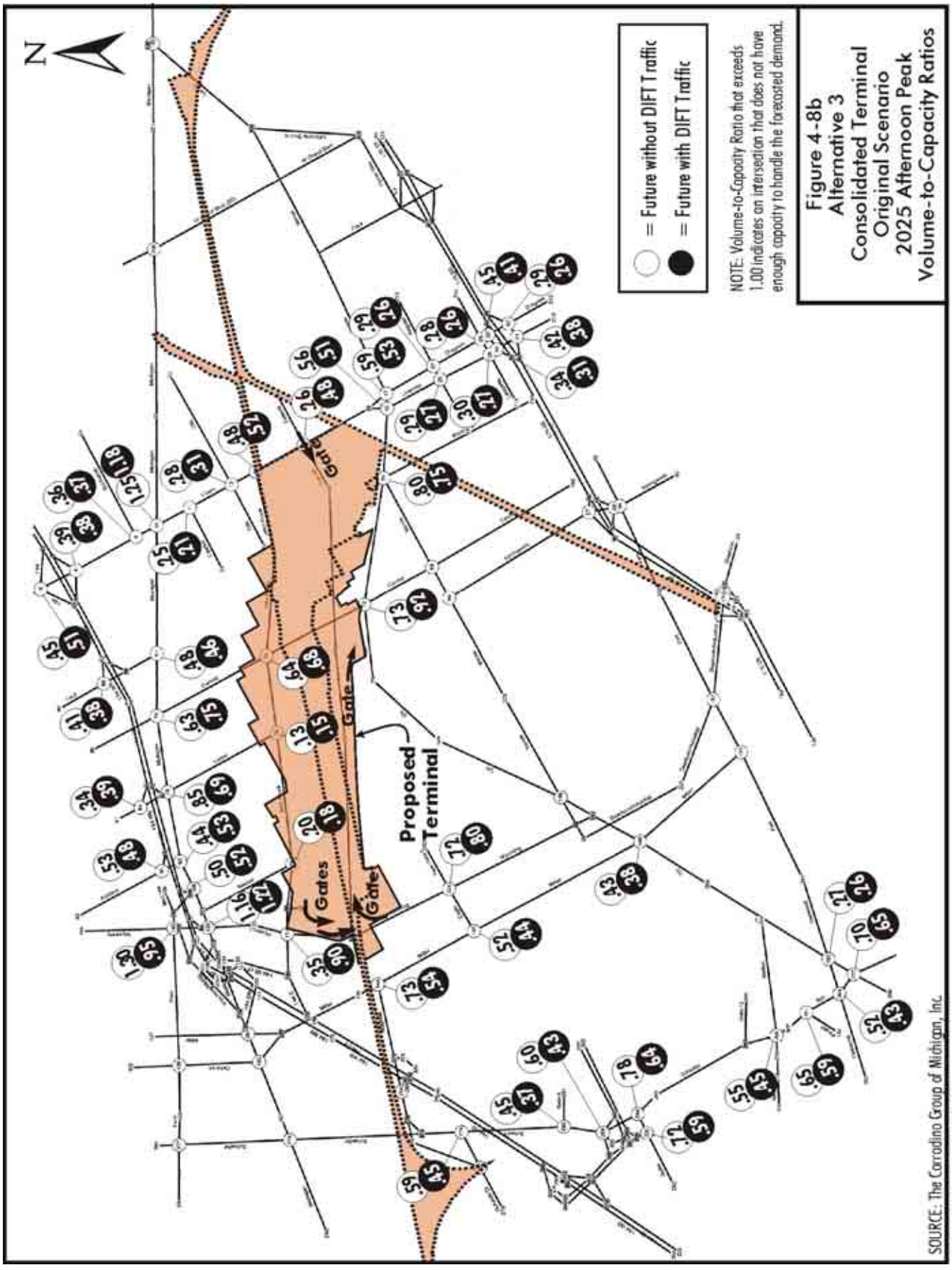


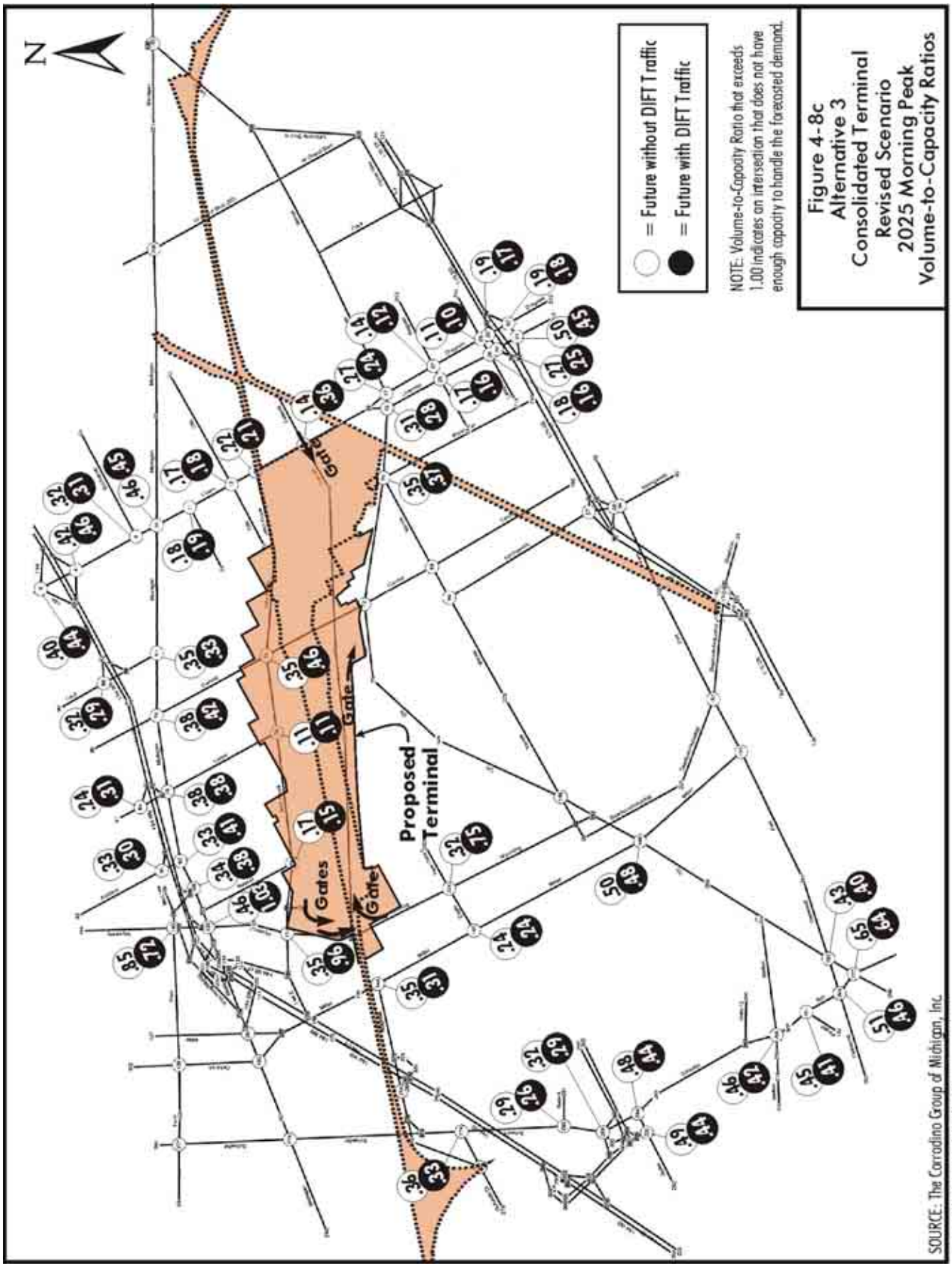
Figure4-6b
Alternative 2 - Options A & B
CP/Oak Terminal
2025 Afternoon Peak
Volume-to-Capacity Ratios


N
Figure 4-7a
Alternatives 2 & 4
CN/Moterm Terminal
2025 Morning Peak
Volume-to-Capacity Ratios
Proposed Terminal
Gate
○ = Future without DIFT Traffic
● = Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
SOURCE: The Corradino Group of Michigan, Inc.

N
Figure 4-7b
Alternatives 2 & 4
CN/Moterm Terminal
2025 Afternoon Peak
Volume-to-Capacity Ratios
Proposed Terminal
Gate
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
SOURCE: The Corradino Group of Michigan, Inc.


N
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
Figure 4-8a
Alternative 3
Consolidated Terminal
Original Scenario
2025 Morning Peak
Volume-to-Capacity Ratios
Proposed Terminal
Gate
Gates
Gate
SOURCE: The Corradino Group of Michigan, Inc.

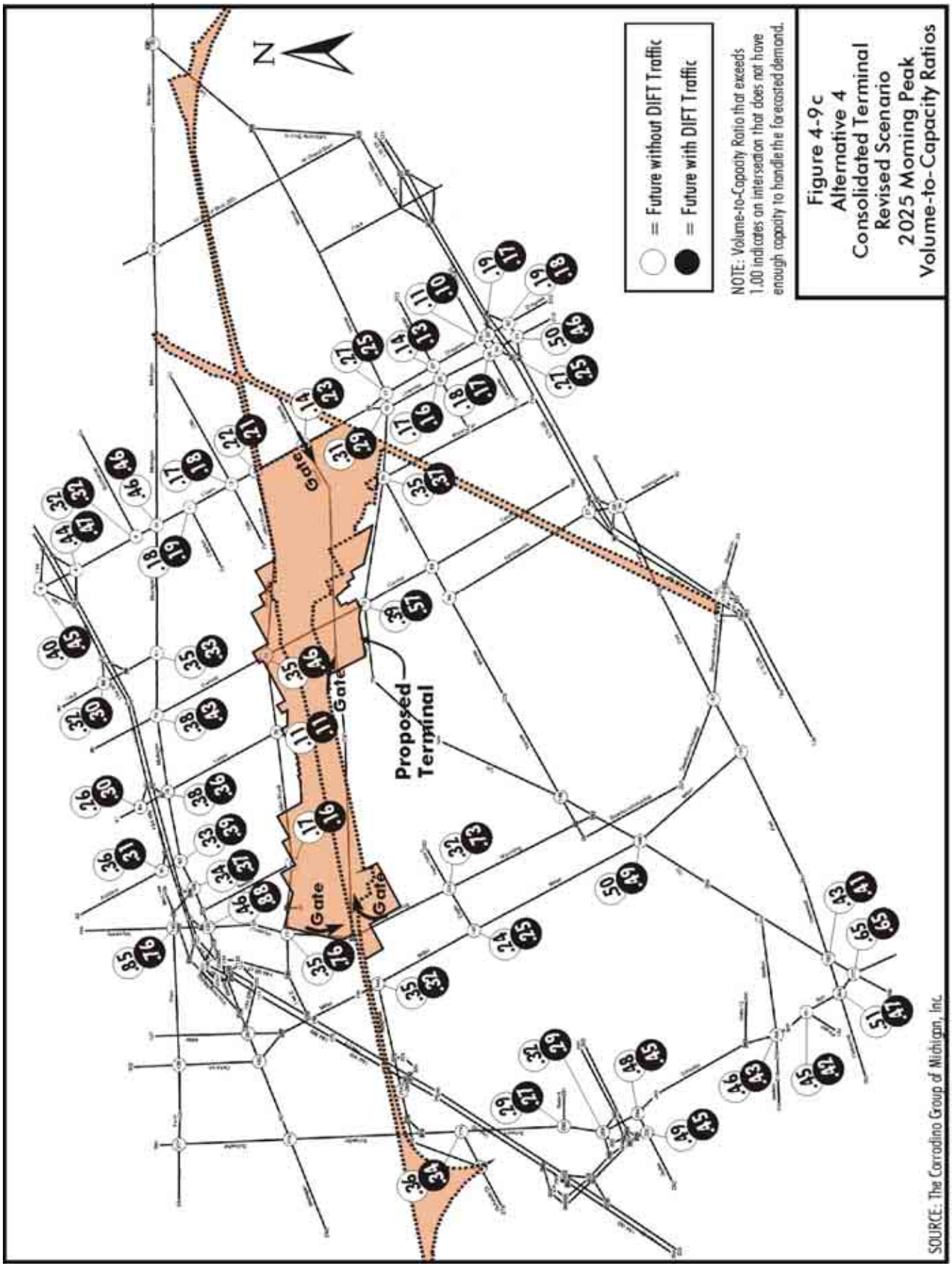

N
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
Figure 4-8b
Alternative 3
Consolidated Terminal
Original Scenario
2025 Afternoon Peak
Volume-to-Capacity Ratios
Proposed Terminal
Gate
Gates
Gate
SOURCE: The Corradino Group of Michigan, Inc.


N
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
Figure 4-8c
Alternative 3
Consolidated Terminal
Revised Scenario
2025 Morning Peak
Volume-to-Capacity Ratios
Gate
Gates
Gate
Gate
Proposed Terminal
SOURCE: The Corradino Group of Michigan, Inc.

N
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
Figure 4-8d
Alternative 3
Consolidated Terminal
Revised Scenario
2025 Afternoon Peak
Volume-to-Capacity Ratios
Gates
Gate
Gate
Proposed Terminal
SOURCE: The Corradino Group of Michigan, Inc.

N
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
Figure 4-9a
Alternative 4
Consolidated Terminal
Original Scenario
2025 Morning Peak
Volume-to-Capacity Ratios
Proposed Terminal
Gate
Gate
Gate
Gate
SOURCE: The Corradino Group of Michigan, Inc.

N
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
Figure 4-9b
Alternative 4
Consolidated Terminal
Original Scenario
2025 Afternoon Peak
Volume-to-Capacity Ratios
Proposed Terminal
Gate
Gate
Gate
Gate
SOURCE: The Corradino Group of Michigan, Inc.


N
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
Figure 4-9c
Alternative 4
Consolidated Terminal
Revised Scenario
2025 Morning Peak
Volume-to-Capacity Ratios
Proposed Terminal
Gate
Gate
Gate
SOURCE: The Corradino Group of Michigan, Inc.

N
= Future without DIFT Traffic
= Future with DIFT Traffic
NOTE: Volume-to-Capacity Ratio that exceeds 1.00 indicates an intersection that does not have enough capacity to handle the forecasted demand.
Figure 4-9d
Alternative 4
Consolidated Terminal
Revised Scenario
2025 Afternoon Peak
Volume-to-Capacity Ratios
Proposed Terminal
Gate
Gate
Gate
SOURCE: The Corradino Group of Michigan, Inc.

In all the Action Alternatives, Lonyo Avenue is expected to be closed at the Livernois-Junction Yard boundary and connected to Central by either a rebuilt section of John Kronk Street (Alternative 2) or a proposed perimeter road (Alternatives 3 and 4). Central Avenue is proposed to pass under the railroad tracks. Under the Action Alternatives, closing Lonyo will place more traffic on Central Avenue. The Central Avenue underpass will be able to serve it. Also, under Alternatives 3 and 4, large-truck traffic on Central Avenue north of the railyard will be reduced as the major truck center at Central and Kronk (and other businesses, depending on alternative) will be relocated. The grade separation of Central from the rail lines and the elimination of the Lonyo rail crossing under all three Action Alternatives will eliminate train/auto crashes. The Central Avenue rail crossing has experienced fewer than one incident in the last three years, and 11 in the last 30 years. But, the Lonyo rail crossing ranks first (tied) in Michigan in fatal incidents (one) occurring over the last three years and second (tied) for fatal incidents (three) in last 30 years. Additionally, the Lonyo crossing is ranked first (tied) for total incidents in the last three years and ranked sixth statewide with 14 incidents in the last 30 years.

It is noteworthy that closing Lonyo will make access to the residences and businesses located there, including Star Academy, more circuitous for some trips. Overall traffic on Lonyo is forecast to decrease because the street will not connect to Dix, and some industrial land uses served by Lonyo will be relocated, thereby producing less traffic.

Under Alternative 2, intermodal truck traffic to/from the CP/Oak terminal would be channeled along I-96 to an improved interchange at Evergreen Road, thereby virtually eliminating intermodal truck traffic from streets in the surrounding neighborhood. Likewise, expanding the CN/Moterm terminal south into the Fairgrounds, as proposed under Alternatives 2 and 4, will remove intermodal trucks from Fair and Chesterfield Streets in Ferndale by providing access directly south from Eight-Mile Road into the terminal.

All three Action Alternatives (Alternative 2, 3 and 4) will also be associated with a regional safety benefit due to the reduction of truck traffic when some freight shipments are transferred from trucks to trains. The Action Alternatives will, therefore, reduce in Wayne County annual 2025 injury crashes and fatalities by 25 and one respectively, compared to the No Action condition. The Action Alternatives' safety effects in the seven-county Southeast Michigan region will be to reduce annual 2025 injury crashes and fatalities by 97 and four, respectively, compared to the No Action Alternative.

4.2 Social Impacts/Community Cohesion

The host of community facilities located in each terminal area are shown on Figures 4-10 and 4-11. Interviews with more than half the 110+ community organizations/individuals contacted indicate the most important of these are schools and places of worship. There is a strong desire for a quiet/peaceful neighborhood free of trucks and their environmental effects.

LEGEND

- Existing Terminal Boundary
- Consolidate
- Composite
- Expand Existing Terminals

KEY

SCHOOLS
1. Harms School
2. Neinas School
3. Logan School
4. St. Stephens School
5. Star International Academy/ St. Lawrence School
6. Holmes School
7. St. Matthews School
8. Roberto Clemente Elem. School
9. Cesar Chavez Elem. School
10. Cesar Chavez High School
11. New/Old Salina School
12. Beard School Annex
13. Phoenix Academy
14. Voyager Academy
15. Our Lady Queen of Angels School
16. Academy of the Americas
17. Vistas Nuevas Head Start

GOVERNMENT OFFICE
18. Neighborhood City Hall
19. Social Security Office

CLINIC
20. American Indian Health & Social Services

POLICE STATIONS
21. 4th Precinct

FIRE STATIONS
22. Engine 33
23. Engine 37

PLACES OF WORSHIP
24. Open Door Baptist Church
25. Church of Jesus Christ of Latter Day Saints
26. St. Johns Ukrainian Catholic Church
27. Deeper Life Christian Church
28. First Spanish Baptist Church
29. Templo Pentecostal El Olivar
30. Grace Assembly of God Church
31. St. Stephen Catholic Parish
32. Pilgrim Missionary Baptist Church
33. The House of Truth Nondenominational Church
34. St. Matthews Evangelical Lutheran Church
35. La Roca Eternal
36. St. Hedwig Church
37. St. Gabriel
38. El Buen Samaintario Church
39. Betel-Romanian Pentecostal Church
40. Our Lady Queen of Angels
41. Explosion Deliverance Ministries
42. Christian Center Church
43. Iglesia de Dio
44. American Moslem Society

PARKS
45. Dearborn Wyoming-Gould Playlot
46. Wilson Playground
47. Loverix Park
48. Memorial Park/St. Hedwig Playfield
49. Boyer Playground
50. Patton Memorial Park

BANKS
51. Comerica
52. Comerica
53. Charter One
54. Bank One

LAUNDROMATS
55. Village Tub
56. Patton Park Laundromat

RECREATION/COMMUNITY CENTER
57. Patton Park Recreation Center
58. St. Hedwig Recreation Center
59. LA SED Recreation/Senior Center
60. Boys & Girls Club

SENIOR CITY HOMES
61. Pablo Davis Senior Citizen Homes
62. Central Towers

HOMELESS SHELTER
63. Covenant House

Option 2B Only

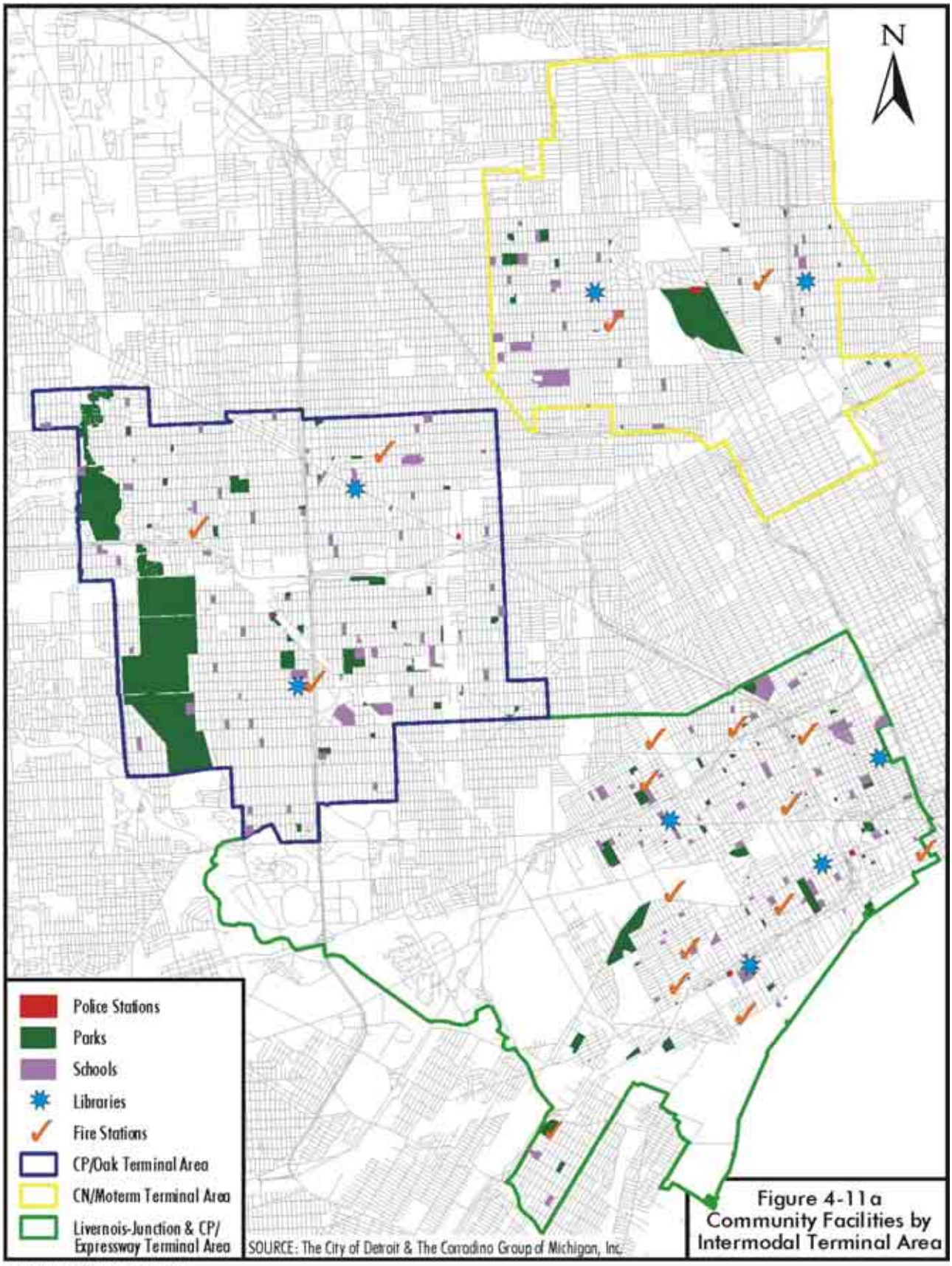
Figure 4-10a
Livernois-Junction Yard
Community Facilities

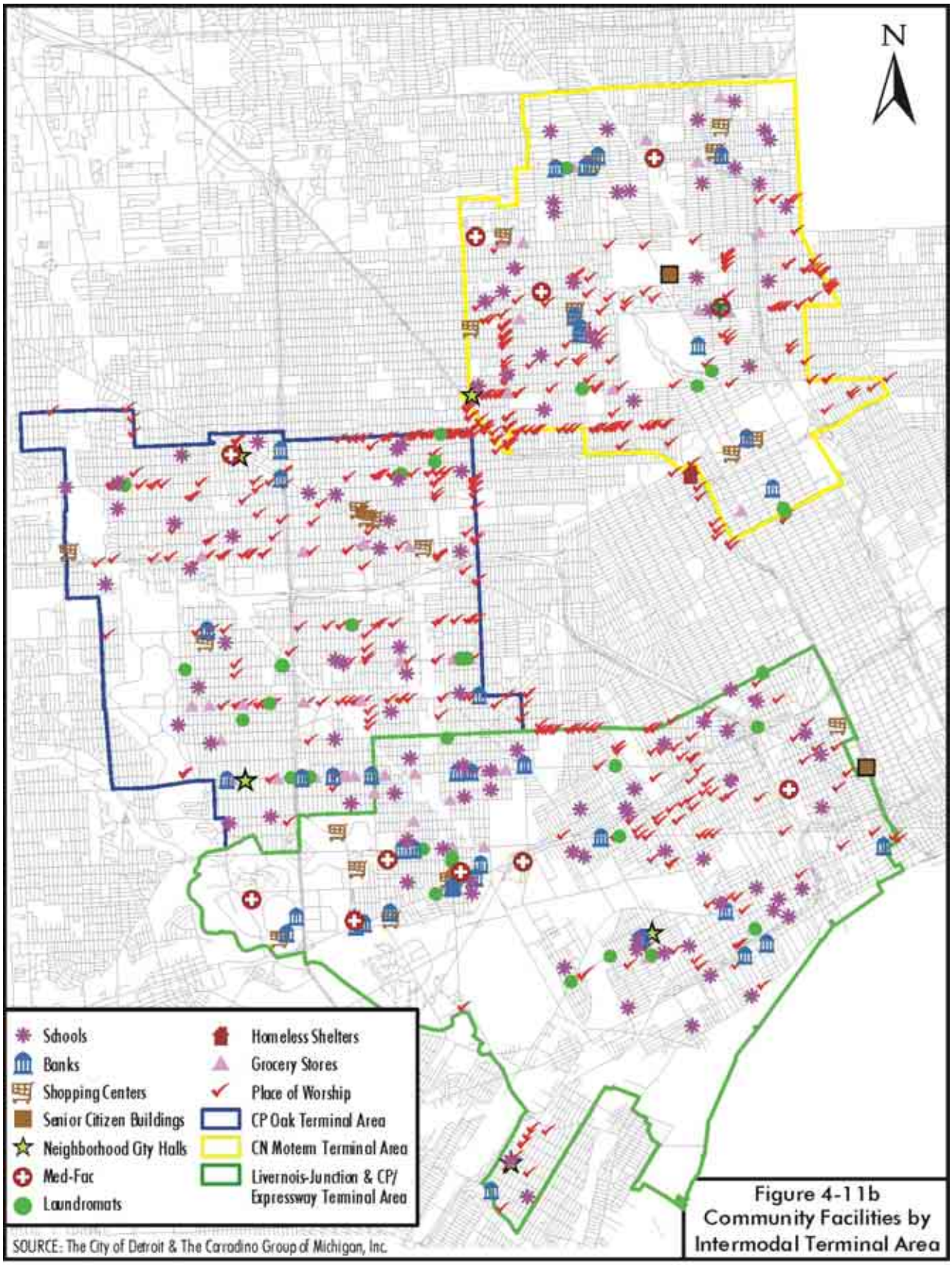
SOURCE: The Corradino Group of Michigan, Inc.

Figure 4-10b
CP/Expressway Terminal
Community Facilities
LEGEND
Existing Terminal Boundary
Proposed Facility Expansion
KEY
1. St. Vincent Middle School
2. Former St. Paul's German Evangelical Lutheran Church School
3. B.U.O.Y. #3
4. 3rd Precinct Police Station
5. Detroit Public Works Western Yard
6. United Community Hospital
7. Grace to Grace Christian Church
8. Roosevelt Park
9. Macomb Park
SOURCE: The Corradino Group of Michigan, Inc.
N
WABASH ST
MARANETTE ST
14TH ST
15TH ST
16TH ST
17TH AVE
18TH AVE
W VERNOR HWY
VERNOR HWY
5TH ST
ROSE ST
10TH AVE
NEWARK ST
18TH ST
PORTER ST
STANISH ST
BOLDT ST
W JEFFRIES FWY
FISHER FWY SERVICE DR
FISHER FWY

Figure 4-10c
CP/Oak Terminal
Community Facilities
N
W Davison St
Artesian St
Glendale St
E Borman Ave
Capitol St
Fitzpatrick St
Heyden St
Kentfield St
W Davison St
LEGEND
Existing Terminal Boundary
Proposed Facility Expansion
NOTE: There are no Schools, Libraries, Medical Facilities, Churches, Government Offices or Parks that would be potentially affected at this site.
SOURCE: The Corradino Group of Michigan, Inc.

SOURCE: The Corradino Group of Michigan, Inc.


N
Police Stations
Parks
Schools
Libraries
Fire Stations
CP/Oak Terminal Area
CN/Motern Terminal Area
Livernois-Junction & CP/
Expressway Terminal Area
SOURCE: The City of Detroit & The Corradino Group of Michigan, Inc.
Figure 4-11a
Community Facilities by
Intermodal Terminal Area


N
Schools
Banks
Shopping Centers
Senior Citizen Buildings
Neighborhood City Halls
Med-Fac
Laundromats
Homeless Shelters
Grocery Stores
Place of Worship
CP Oak Terminal Area
CN Moteem Terminal Area
Livernois-Junction & CP/ Expressway Terminal Area
SOURCE: The City of Detroit & The Carrodino Group of Michigan, Inc.
Figure 4-11b
Community Facilities by
Intermodal Terminal Area

Two of the three terminal areas have experienced a continued decline in population, as has the City of Detroit itself. Recent data indicate the City of Detroit lost an additional 40,000 people between 2000 and 2003 putting its population at 911,000, the number of people in Detroit around the time of World War I.

The strongest characteristics of the terminal area communities are their resiliency, ethnic diversity, local shopping districts, and residential neighborhoods. However, each community is not without its share of challenges. The infrastructure is in need of repair, and new strategies are needed to retrofit land uses, while preventing deterioration of neighborhoods. The housing stock dates back to the early 1900s. Despite this aging housing stock, a revitalization of older housing is underway in Southwest Detroit.

The residents of each terminal area are neighbors with industry and heavy freight traffic. The history of each terminal area community has always involved industry. But, many buildings that once provided economic security to area residents are now vacant or have been removed leaving vacant parcels, including those in the area of residential housing that would be required for the project. These conditions have created a situation in which many of the owners of housing proposed for acquisition to accommodate terminal expansion are not opposed to a move, as determined by interviews.

Nevertheless, southwest Detroit and the Livernois-Junction Yard terminal area have experienced a resurgence. This has resulted in many new locally-owned businesses. They range from family-owned bakeries to manufacturing operations. The renovated storefront businesses and "new" commercial development along West Vernor Highway make it clear that the community is revitalized.

There will be acquisition of businesses associated with all Action Alternatives but residential acquisition is only likely with consolidating intermodal activities for three or four railroads at the Livernois-Junction Yard (Alternatives 3 and 4). Additional residential acquisition may occur with the indirect/spin-off development associated with intermodal terminal development but need not be, based on the amount of available industrial property. Further, the proposed design of the terminals, with barrier walls at the terminal's boundaries, is expected to support a stronger community around each terminal by stopping the "creep" of incompatible development that has historically occurred.

Other impacts are expected with the Action Alternatives at the Livernois-Junction Yard, the CP/Oak and CN/Moterm terminals as follows:

- At the Livernois-Junction Yard, intermodal truck traffic will be moved to the freeways to connect to arterial roads that directly serve the terminal gates. Additionally, under Alternatives 3 and 4, a number of major generators of neighborhood truck traffic will be relocated.

- At the Livernois-Junction Yard, Lonyo will be closed at the terminal boundary and Central Avenue will pass under the rail lines for all Action Alternatives (Alternatives 2, 3 and 4). This will improve the safe movement of people in the community.

- The surface of the Livernois-Junction Yard will be paved under all Action Alternatives. This will address dust, which is a nuisance and an air quality problem.

- At the Livernois-Junction Yard, several abandoned properties, salvage yards, and industrial facilities will be removed (Alternatives 3 and 4) for intermodal terminal development.

- At the CP/Oak terminal under Alternative 2, improvement to the I-96/Evergreen Avenue interchange will significantly reduce the truck traffic in the surrounding neighborhoods. Under Alternatives 3 and 4, truck traffic would also be reduced as the intermodal activity at this terminal would be shifted to the Livernois-Junction Yard area.

- At the CN/Moterm terminal, the terminal access will be changed from the north to the south side of M-102/Eight Mile Road for Alternatives 2 and 4. This will remove intermodal truck movements from Fair Street and Chesterfield Street in Ferndale. Under Alternative 3, truck traffic would also be reduced as the intermodal activity at this terminal would be shifted to the Livernois-Junction yard area.

- Under all Action Alternatives, a barrier wall will be built for security. It will also create a visual screen and a noise buffer on the north side and a portion of the south side of the Livernois-Junction Yard. Under Alternative 2, barrier walls for security would be built at CP/Oak and the CN/Moterm terminals.

4.2.1 Community Facilities

A number of schools, places of worship and other community facilities are present in the study area. These are shown on Figures 4-10 and 4-11. Table 4-9 shows the distances of community facilities from the terminals to provide a sense of proximity and, therefore, possible impact.

Alternative 1: No Action

Under the No Action Alternative there will be no changes to community facilities due to the project.

Alternative 2: Improve/Expand Existing Terminals

Livernois-Junction Yard

- Star International Academy/St. Lawrence School is north of the existing terminal on Lonyo Avenue. The school will not be directly affected by changes to the terminal. Closing Lonyo Avenue will make travel to it more circuitous (more lengthy) for some trips. Students walking to the school were monitored on several days. No students were observed using Lonyo from south of Kronk. Overall traffic on Lonyo is forecast to decrease because the street will not connect to Dix and some industrial uses served by Lonyo will be relocated, thereby producing less truck traffic.

- St. Stephens School and Catholic Church are north of the existing terminal on Central Avenue. The school and church will be affected by changes to the terminal under Alternative 2 by grade separating Central Avenue from the railroad tracks. Some traffic now using Lonyo Avenue will use Central Avenue as Lonyo will be closed at the rail yard. Some students walk to the school from the immediately adjacent neighborhood north of John Kronk.

Table 4-9a
Community Facilities
Livernois-Junction Yard

Alt.	Terminal	Figure 4-10a ID	Type	Name	Alts. 1 & 2 Distance[a]	Alt. 3 Distance[a]	Alt. 4 Distance[a]
1/2/3/4	Liv-Jct	1	School	Harms School	1,410	1,010	1,010
1/2/3/4	Liv-Jct	2	School	Neinas School	1,130	1,130	1,130
1/2/3/4	Liv-Jct	3	School	Logan School	1,690	1,060	1,370
1/2/3/4	Liv-Jct	4	School	St. Stephens School	1,980	920	1,610
1/2/3/4	Liv-Jct	5	School	Star International Academy/St. Lawrence School	2,630	1,230	1,370
1/2/3/4	Liv-Jct	6	School	Holmes School	2,880	1,440	1,650
1/2/3/4	Liv-Jct	7	School	St. Matthews School	3,410	2,020	2,070
1/2/3/4	Liv-Jct	8	School	Roberto Clemente Elementary School	2,170	2,090	2,090
1/2/3/4	Liv-Jct	9	School	Cesar Chavez Elementary School	2,880	2,270	2,270
1/2/3/4	Liv-Jct	10	School	Cesar Chavez High School	1,180	1,110	1,110
1/2/3/4	Liv-Jct	11	School	New/Old Salina School	4,100	3,790	3,790
1/2/3/4	Liv-Jct	12	School	Beard School Annex	3,810	3,720	3,720
1/2/3/4	Liv-Jct	13	School	Phoenix Academy	2,920	2,860	2,860
1/2/3/4	Liv-Jct	14	School	Voyageur Academy	3,120	2,830	3,111
1/2/3/4	Liv-Jct	15	School	Our Lady Queen of Angels School	1,990	1,410	1,610
1/2/3/4	Liv-Jct	16	School	Academy of the Americas	1,960	1,870	1,930
1/2/3/4	Liv-Jct	17	School	Vistas Nuevas Head Start	3,390	2,570	2,570
1/2/3/4	Liv-Jct	18	Government Office	Neighborhood City Hall	1,970	1,640	1,640
1/2/3/4	Liv-Jct	19	Government Office	Social Security Office	2,670	2,660	2,660
1/2/3/4	Liv-Jct	20	Clinic	American Indian Health and Social Services	2,970	1,510	1,620
1/2/3/4	Liv-Jct	21	Police Station	4th Precinct Police Station	4,620	4,540	4,540
1/2/3/4	Liv-Jct	22	Fire Station	Engine 33 Fire Station	6,140	6,020	6,020
1/2/3/4	Liv-Jct	23	Fire Station	Engine 37 Fire Station	640	100	100
1/2/3/4	Liv-Jct	24	Place of Worship	Open Door Baptist Church	920	920	920
1/2/3/4	Liv-Jct	25	Place of Worship	Church of Jesus Christ of Latter Day Saints	1,480	760	940
1/2/3/4	Liv-Jct	26	Place of Worship	St. Johns Ukrainian Catholic Church	2,090	1,370	1,610
1/2/3/4	Liv-Jct	27	Place of Worship	Deeper Life Christian Church	1,180	620	720
1/2/3/4	Liv-Jct	28	Place of Worship	First Spanish Baptist Church	1,110	1,110	1,110
1/2/3/4	Liv-Jct	29	Place of Worship	Templo Pentecostal El Olivar	420	420	420
1/2/3/4	Liv-Jct	30	Place of Worship	Grace Assembly of God Church	1,120	1,120	1,120
1/2/3/4	Liv-Jct	31	Place of Worship	St. Stephen Catholic Parish	2,150	1,090	1,780
1/2/3/4	Liv-Jct	32	Place of Worship	Pilgrim Missionary Baptist Church	2,430	1,010	1,410

[a]Distance in feet from the border of the terminal.
Source: The Corradino Group of Michigan, Inc.

Table 4-9a (continued)
Community Facilities
Livernois-Junction Yard

Alt.	Terminal	Figure 4-10a ID	Type	Name	Alts. 1 & 2 Distance[a]	Alt. 3 Distance[a]	Alt. 4 Distance[a]
1/2/3/4	Liv-Jct	33	Place of Worship	The House of Truth Nondenominational Church	1,280	800	800
1/2/3/4	Liv-Jct	34	Place of Worship	St. Matthews Evangelical Lutheran Church	3,430	2,030	2,070
1/2/3/4	Liv-Jct	35	Place of Worship	La Roca Eternal	3,260	2,480	2,480
1/2/3/4	Liv-Jct	36	Place of Worship	St. Hedwig Church	2,240	2,150	2,210
1/2/3/4	Liv-Jct	37	Place of Worship	St. Gabriel	2,870	2,260	2,260
1/2/3/4	Liv-Jct	38	Place of Worship	El Buen Samaintario Church	2,820	2,800	2,800
1/2/3/4	Liv-Jct	39	Place of Worship	Betel-Romanian Pentecostal Church	3,990	3,840	3,840
1/2/3/4	Liv-Jct	40	Place of Worship	Our Lady Queen of Angels Church	2,240	1,610	1,830
1/2/3/4	Liv-Jct	41	Place of Worship	Explosion Deliverance Ministries	2,790	2,140	2,340
1/2/3/4	Liv-Jct	42	Place of Worship	Christian Center Church	2,790	2,200	2,390
1/2/3/4	Liv-Jct	43	Place of Worship	Iglesia de Dios	2,830	2,190	2,390
1/2/3/4	Liv-Jct	44	Place of Worship	American Muslim Society	4,600	4,600	4,600
1/2/3/4	Liv-Jct	45	Park	Dearborn City Park	2,070	550	550
1/2/3/4	Liv-Jct	46	Park	Wilson Playground	1,480	210	720
1/2/3/4	Liv-Jct	47	Park	Loverix Park	710	430	430
1/2/3/4	Liv-Jct	48	Park	Memorial Park/St. Hedwig Playfield	1,840	1,740	1,810
1/2/3/4	Liv-Jct	49	Park	Boyer Playground	1,350	1,350	1,350
1/2/3/4	Liv-Jct	50	Park	Patton Memorial Park	1,080	110	110
1/2/3/4	Liv-Jct	51	Bank	Comerica	3,150	2,090	2,550
1/2/3/4	Liv-Jct	52	Bank	Comerica	2,770	2,190	2,190
1/2/3/4	Liv-Jct	53	Bank	Charter One	3,130	2,060	2,560
1/2/3/4	Liv-Jct	54	Bank	Bank One	2,630	2,110	2,110
1/2/3/4	Liv-Jct	55	Laundromat	Village Tub	2,660	1,890	2,350
1/2/3/4	Liv-Jct	56	Laundromat	Patton Park Laundromat	4,160	3,400	3,400
1/2/3/4	Liv-Jct	57	Recreation/Community Center	Patton Park Recreation Center	3,760	3,190	3,190
1/2/3/4	Liv-Jct	58	Recreation/Community Center	St. Hedwig Recreation Center	2,240	2,150	2,210
1/2/3/4	Liv-Jct	59	Recreation/Community Center	LA SED Recreation/Senior Center	840	710	710
1/2/3/4	Liv-Jct	60	Recreation/Community Center	Boys & Girls Club	2,230	2,060	2,230
1/2/3/4	Liv-Jct	61	Senior City Home	Pablo Davis Senior Citizen Home	4,290	3,740	3,740
1/2/3/4	Liv-Jct	62	Senior City Home	Central Towers Senior Home	1,340	960	960
1/2/3/4	Liv-Jct	63	Homeless Shelter	Covenant House	1,550	480	1,180

[a]Distance in feet from the border of the terminal.
Source: The Corradino Group of Michigan, Inc.

Table 4-9b
Community Facilities
CP/Expressway Terminal
Alternative 2

Alt.	Terminal	Figure 4-10b ID	Type	Name	Alts. 1 & 2 Distance[a]
1/2	CP/Expressway	1	School	St. Vincent Middle School	490
1/2	CP/Expressway	2	School	Former St. Paul's German Evangelical Lutheran Church School	220
1/2	CP/Expressway	3	Recreation/Community Center	B.U.O.Y. #3	800
1/2	CP/Expressway	4	Police Station	3rd Precinct Police Station	1,500
1/2	CP/Expressway	5	Government	Detroit Public Works Western Yard	0
1/2	CP/Expressway	6	Hospital	United Community Hospital	90
1/2	CP/Expressway	7	Place of Worship	Grace to Grace Christian Church	160
1/2	CP/Expressway	8	Park	Roosevelt Park	400
1/2	CP/Expressway	9	Park	Macomb Park	60

[a]Distance in feet from the border of the terminal.
Source: The Corradino Group of Michigan, Inc.

Table 4-9c
Community Facilities
CP/Oak Terminal
Alternative 2

Alt.	Terminal	Figure ID	Type	Name	Alts. 1 & 2 Distance[a]
1/2	CP/Oak	NA	No community facilities		NA

[a]Distance in feet from the border of the terminal.
Source: The Corradino Group of Michigan, Inc.

Table 4-9d
Community Facilities
CN/Moterm Terminal
Alternatives 2 and 4

Alt.	Terminal	Figure 4-10d ID	Type	Name	Alts. 1, 2 & 4 Distance[a]
1/2/4	CN/Moterm	1	School	Wilson School	4,560
1/2/4	CN/Moterm	2	School	Grayling School	500
1/2/4	CN/Moterm	3	School	Webster School	3,630
1/2/4	CN/Moterm	4	Fire Station	City of Ferndale Fire Station #2	5,230
1/2/4	CN/Moterm	5	Bank	Credit Union One	5,240
1/2/4	CN/Moterm	6	Government	State Fairgrounds	Adjacent (0)
1/2/4	CN/Moterm	7	Place of Worship	Warner Memorial Church of God	4,830
1/2/4	CN/Moterm	8	Place of Worship	Bethel Missionary Baptist Church	3,730
1/2/4	CN/Moterm	9	Place of Worship	India Gospel Assembly	3,450
1/2/4	CN/Moterm	10	Place of Worship	Greater Mt. Olive Baptist Church	790
1/2/4	CN/Moterm	11	Place of Worship	Oak Park Missionary Baptist Church	2,460
1/2/4	CN/Moterm	12	Place of Worship	Christian Community Church	840
1/2/4	CN/Moterm	13	Place of Worship	Greater Mt. Everett Church	1,000
1/2/4	CN/Moterm	14	Place of Worship	Greater Christ Temple Church	1,800
1/2/4	CN/Moterm	15	Park	Hunt Playground	200
1/2/4	CN/Moterm	16	Park	Wilson Park	4,070
1/2/4	CN/Moterm	17	Park	Fair Park	2,520
1/2/4	CN/Moterm	18	Park	Wanda Park	2,890
1/2/4	CN/Moterm	19	Park	Saratoga Park	4,750

[a]Distance in feet from the border of the terminal.
Source: The Corradino Group of Michigan, Inc.

CP/Expressway Terminal

- The Detroit Public Works Western Yard is located north of the expansion area between 18th and 20th Street to the south of Michigan Avenue. It would be relocated for the project. The Detroit Police Department plans to occupy the Michigan Central Depot. If this occurs, the offices would be unaffected by the project. A currently vacant lot next to the Michigan Central Depot, that was formerly used for intermodal purposes, would be acquired for the DIFT.

- The United Community Hospital is north and west of the Expressway terminal and would be adjacent to the terminal, if the terminal were expanded under Alternative 2. It is surrounded by industrial uses and freeways (I-75 and I-96) and the conditions affecting the hospital would change little if the Expressway terminal were expanded. The change in intermodal train activity of Alternative 2 over No Action conditions will not affect this hospital.

CP/Oak Terminal

Under Alternative 2 there will be no changes to community facilities at the CP/Oak terminal.

CN/Moterm Terminal

- The State Fairgrounds is south of the existing terminal area and adjacent to the west side of the railroad tracks south of Eight Mile Road. It would be directly affected by the project. The east section of the area of the Fairgrounds is now leased for the parking of automotive vehicles. It is also used by those who attend the State Fair during two weeks in August each year. It would be needed for the expansion of the Moterm terminal. No buildings that are used for the State Fair are in this area.

Alternative 3: Consolidate All Four Class I Railroads' Intermodal Activity at Livernois-Junction Yard Area

The conditions of Alternative 2 for the Livernois-Junction Yard, presented above, apply here.

Alternative 4: The Composite Option

The conditions of Alternative 2 for the Livernois-Junction Yard and CN/Moterm terminal, presented above, apply here.

4.2.2 Considerations Relating to Pedestrian Access and Bicycle Use

Alternative 1: No Action

The No Action Alternative would affect pedestrian access and bicycle use because the pathways along the edges of the Livernois-Junction Yard are in disrepair and have been for some time. It is not expected that they will be repaired. The gate at Dix/Waterman/Vernor is expected to continue in service in an area of significant local vehicle and pedestrian traffic.

The CP/Expressway terminal does not affect pedestrian and bicycle paths because it is removed from these facilities.

The CP/Oak terminal is accessed by streets which are largely lined by residential uses including the service drives on the Southfield Freeway. Truck traffic will increase on these streets.

The CN/Moterm terminal is accessed by Fair Street and Chesterfield Street which also serve residential areas. Truck traffic will increase under the No Action Alternative. No improvements to facilitate pedestrian/bicycle movements are involved in the No Action Alternative.

Alternative 2: Improve/Expand Existing Terminals

Livernois-Junction Yard

The at-grade railroad crossing at Lonyo Avenue will be closed. The at-grade railroad crossing at Central Avenue will become grade-separated with sidewalks and lighting. All improvements will be in compliance with provisions of the 1992 Americans with Disabilities Act (ADA). The gate at Livernois Avenue would likely be signalized to allow safe movement of pedestrians, bicyclists and auto travelers. The gate at Dix/Waterman/Vernor would be eliminated under Options B and C in favor of a new gate/entry using either Wyoming Avenue or Livernois Avenue. This would reduce pedestrian/bicycle interactions with trucks in this area.

CP/Expressway Terminal

The proposed expansion area at the Expressway terminal currently does not have pedestrian access or bicycle use. This would remain the same with Alternative 2.

CP/Oak Terminal

The proposed expansion area for Alternative 2 at the CP/Oak terminal will lessen truck traffic on a number of local streets improving the movement of pedestrians and bicyclists.

CN/Moterm Terminal

The proposed expansion area at the State Fairgrounds currently does not have pedestrian access or bicycle use. This would remain the same with Alternative 2. The gate to the terminal will no longer be served by Fair Street and Chesterfield Street. This will improve the pedestrian movements along/across Fair Street in Ferndale.

Alternative 3: Consolidate All Four Class I Railroads' Intermodal Activity at Livernois-Junction Yard Area

The conditions of Alternative 2 for the Livernois-Junction Yard, presented above, apply here with the addition that the perimeter road that will replace John Kronk will be buffered and include sidewalks so it will improve pedestrian and bicycle movements compared to the No Action Alternative.

Alternative 4: The Composite Option

The conditions of Alternative 2 and 3 for the Livernois-Junction Yard and the CN/Moterm terminal, presented above, apply here.

4.2.3 Considerations Relating to Mass Transit Service

There are two transit systems operating in the terminal areas. They are the Detroit Department of Transportation (DDOT), providing bus service within the City of Detroit and the Suburban Mobility Authority for Regional Transportation (SMART) providing bus service in the suburbs as well as service to and from downtown Detroit.

Alternative 1: No Action

The No Action Alternative would not affect mass transit service.

Alternative 2: Improve/Expand Existing Terminals

Livernois-Junction Yard

DDOT operates eight routes near the Livernois-Junction yard area. These are routes 11, 19, 20, 27, 30, 37 49, and 54 with service on Wyoming, Michigan, Livernois, Dix, and Vernor. SMART routes in the area include 110, 125, 150, 200, 255, 305, 810, 820, and 830. Of these, Route 200 is along Michigan. Other routes are on the freeways or Fort Street. Improving/expanding the existing terminal will not impact any of these routes.

CP/Expressway Terminal

DDOT routes 18, 19, 37 and 49 provide service on Michigan and Vernor. SMART routes in the area include 110, 125, 150, 200, 255, 305, 810, 820, and 830. Again, these routes focus on the freeway system, except for a route on Michigan. None of these routes will be impacted by terminal improvements or expansion.

CP/Oak Terminal

DDOT routes in the CP/Oak terminal area include Route 43 on Schoolcraft and 46 on the Southfield Freeway. SMART routes are limited to I-96 – Routes 810 and 820. None of these routes will be impacted by terminal improvements or expansion.

CN/Moterm Terminal

Near the Moterm terminal, numerous DDOT routes terminate or connect to other routes at a major transfer point on Woodward Avenue at the State Fairgrounds, just south of Eight Mile Road. These include Routes 12, 23, 30, 53, and 54. Routes operating on Eight Mile Road are 17, 30, and 54. There are also numerous SMART routes in the area, including on Woodward Avenue routes 440, 445, 450, 460, 465, and 475, and on Eight Mile Road 410 and 494. Improving or expanding the Moterm terminal will not impact these routes.

Alternative 3: Consolidate All Four Class I Railroads' Intermodal Activity at Livernois-Junction Yard Area

The conditions of Alternative 2 for the Livernois-Junction Yard, presented above, apply here.

Alternative 4: The Composite Option

The conditions of Alternative 2 for the Livernois-Junction Yard and the CN/Moterm terminal, presented above, apply here.

4.2.4 Maintaining Traffic

The project will require limited road construction that will result in detours. New Livernois Avenue/I-94 ramps will be added in the northwest and northeast quadrants of the I-94 interchange. This will likely be done in one construction season, or March through November. Lonyo Avenue will not be closed until the grade separation at Central Avenue is complete. Central may be fully or partially closed during the grade separation construction affecting vehicles, pedestrians and bicycles (no buses use Lonyo or Central). This will take at least two years.

4.3 Population Characteristics of Key Groups

While the Detroit Urbanized Area gained population in the 1990s, four of the five cities that host an intermodal terminal (Detroit, Ferndale, Hazel Park and Highland Park) experienced a decline; only Dearborn experienced an increase (Table 4-10). The areas around the CP/Oak and CN/Moterm terminals (Tables 4-11 and 4-12) also declined. Only the area of Southwest Detroit/East Dearborn of the Livernois-Junction Yard/CP Expressway terminal area experienced an increase (Tables 4-11 and 4-12). Characteristics of the population in each terminal area are presented next.

Table 4-10
Population by Intermodal Terminal Host City

City	1990	2000
Detroit City	1,027,974	951,270
Dearborn City	89,286	92,775
Highland Park City	20,121	16,746
Hazel Park	20,051	18,963
Ferndale City	25,084	22,105

Source: SEMCOG Historical Population 1990-2000 and U.S. Census

4.3.1 Title VI

To be considered for further studies and implementation, the DIFT alternatives must be in compliance with Title VI of the Civil Rights Act of 1964; i.e., "that discrimination shall not occur on the grounds of race, color, or national origin in connection with programs and activities receiving federal financial assistance." African-Americans, along with Germans, are the largest ethnic groups of the Detroit Urbanized Area (Table 4-11). But, the African-American, Hispanic and Arab populations represent at least two-thirds of the people in the three terminal areas. Hispanics represent three percent of the urbanized area population; the Arab population, two percent. So, to properly account for Title VI issues, all groups which comprise at least two percent of the urbanized area's population were defined for analysis of their special facilities, services and cultural institutions (Table 4-11). These groups are:

- Arab
- Asian
- Black or African American
- English
- French
- German
- Hispanic/Latino
- Irish
- Italian
- Polish
- Scottish

Table 4-11
Population and Total Households by Terminal Area in 2000

Population Category	Detroit Urbanized Area[a]		Wayne County		Oakland County		Livernois-Junction/ CP/Expressway (Zips 120, 126, 208, 209, 210, 216, 217)		CP/Oak (Zips 223, 227, 228)		CN/Moterm (Zips 030, 202, 220, 221)	
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Total Population	3,903,682	100.0	2,061,162	100.0	1,194,156	100.0	163,784	100.0	164,450	100.0	141,286	100.0
Black or African American Alone	1,000,953	25.6	862,281	41.8	118,407	9.9	43,211	26.4	134,248	81.6	91,688	64.9
American Indian & Alaskan Native Alone	13,636	0.3	7,435	0.4	2,789	0.2	1,291	0.8	474	0.3	503	0.4
Asian Alone	99,805	2.6	34,916	1.7	48,231	4.0	1,608	1.0	899	0.6	1,277	0.9
Native Hawaiian & Other Pacific Islander	883	0.0	407	0.0	236	0.0	142	0.1	5	0.0	61	0.0
Hispanic/Latino	116,770	3.0	71,919	3.5	27,817	2.3	39,640	24.2	3,026	1.8	1,339	0.9
TOTAL MINORITY	**1,232,047**	**31.5**	**976,958**	**47.4**	**197,480**	**16.5**	**85,892**	**52.5**	**138,652**	**84.3**	**94,868**	**67.1**
Total Households	1,498,537	100.0	768,626	100.0	471,390	100.0	54,963	100.0	57,301	100.0	53,698	100.0
Households w/Income < Poverty Level	156,397	10.4	114,801	14.9	25,607	5.4	15,195	27.6	12,219	21.3	10,078	18.8
Ancestry[b]												
Arab	91,230	2.3	56,109	2.7	19,030	1.6	29,977	18.3	3,023	1.8	1,494	1.1
English	290,385	7.4	109,392	5.3	135,579	11.4	3,028	1.8	1,589	1.0	4,902	3.5
French (except Basque)	155,626	4.0	63,763	3.1	53,336	4.5	1,719	1.0	1,152	0.7	2,851	2.0
German	607,611	15.6	226,518	11.0	225,428	18.9	6,435	3.9	3,493	2.1	8,995	6.4
Irish	390,824	10.0	165,053	8.0	150,058	12.6	5,824	3.6	2,974	1.8	7,204	5.1
Italian	256,025	6.6	85,037	4.1	71,155	6.0	3,431	2.1	1,472	0.9	2,324	1.6
Polish	424,362	10.9	173,119	8.4	116,895	9.8	8,047	4.9	4,689	2.9	5,179	3.7
Scottish	85,154	2.2	34,053	1.7	37,626	3.2	794	0.5	584	0.4	1,451	1.0

[a]The Detroit Urbanized Area contains the City of Detroit and the densely populated areas surrounding it. It includes most but not all of Wayne and Oakland Counties and a portion of Macomb County.
[b]Percent of those who reported ancestry in one or more categories. Not all persons reported ancestry.
Source: U.S. 2000 Census

Table 4-12
Population and Total Households by Terminal Area in 1990

Population Category	Detroit Urbanized Area[a]		Wayne County		Oakland County		Livernois-Junction/ CP/Expressway (Zips 120, 126, 208, 209, 210, 216, 217)		CP/Oak (Zips 223, 227, 228)		CN/Moterm (Zips 030, 202, 220, 221)	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population	3,697,424	100	2,111,687	100.0	1,083,592	100.0	159,817	100	182,382	100	155,531	100
Black or African American Alone	931,331	25.2	845,974	40.1	76,939	7.1	99,028	30.7	132,796	72.8	98,200	63.1
American Indian & Alaskan Native Alone	14,768	0.4	7,609	0.4	4,304	0.4	1,432	0.9	488	0.3	798	0.5
Asian Alone	53,068	1.4	20,711	1.0	24,082	2.2	987	0.6	899	0.5	1,241	0.8
Native Hawaiian & Other Pacific Islander	385	0	243	0.0	100	0.0	17	0	22	0	0	0
Hispanic/Latino	39,609	1.1	25,073	1.2	11,088	1.0	7,805	4.9	965	0.5	527	0.3
TOTAL MINORITY	**1,039,161**	**28.1**	**899,610**	**42.6**	**116,513**	**10.8**	**59,269**	**37.1**	**135,170**	**74.1**	**100,766**	**64.7**
Total Households	1,382,499	100	780,493	100.0	410,977	100.0	59,979	100	59,979	100	57,251	100
Households w/Income < Poverty Level	186,375	13.5	150,287	19.3	25,201	6.1	19,336	32.2	19,336	32.2	13,382	23.4
Ancestry[b]												
Arab	58,348	1.6	31,274	1.5	15,495	1.4	15,098	9.4	888	0.5	2,090	1.3
English	389,295	10.5	168,455	8.0	179,322	16.5	6,725	4.2	5,323	2.9	8,377	5.4
French (except Basque)	210,380	5.7	98,766	4.7	71,193	6.6	3,923	2.5	3,479	1.9	4,244	2.7
German	799,491	21.6	342,837	16.2	300,630	27.7	14,625	9.2	11,115	6.1	14,944	9.6
Irish	484,768	13.1	234,050	11.1	177,573	16.4	13,600	8.5	8,907	4.9	10,721	6.9
Italian	247,267	6.7	93,825	4.4	62,707	5.8	6,453	4	3,318	1.8	2,622	1.7
Polish	468,863	12.7	220,025	10.4	119,945	11.1	16,328	10.2	12,068	6.6	6,321	4.1
Scottish	95,477	2.6	41,804	2.0	43,688	4.0	1707	1.1	1486	0.8	1,933	1.2

[a]The Detroit Urbanized Area contains the City of Detroit and the densely populated areas surrounding it. It includes most but not all of Wayne and Oakland Counties and a portion of Macomb County.
[b]Percent of those who reported ancestry in one or more categories. Not all persons reported ancestry.
Source: U.S. 1990 Census

The spatial distribution of each group is illustrated on Figures 4-12 to and including Figure 4-24.

Livernois-Junction Yard/CP Expressway Terminal Area

In 2000, the area that encompasses the Livernois-Junction Yard and the CP/Expressway terminal area included about 164,000 people of whom 52.5 percent are minority (Table 4-11).[1] The African-American population was about 26 percent of this total. The Hispanic population was 24 percent. The other significant group in this area is Arab, which represented about 18 percent of the terminal area's total population (Table 4-11). More than one-quarter of the people in this area live below the poverty level per the 2000 Census. Those data reflect that the terminal area's population increased in the 1990s (Tables 4-11 and 4-12). The African-American population share of the terminal area declined, while the Hispanic population grew almost five-fold. All other groups shown in Tables 4-11 and 4-12, except the Arab population, declined between 1990 and 2000 in this terminal area. Poverty also declined in the 1990s.

Labor force trends for 1990 and 2000 by terminal area are shown on Table 4-13. Overall, about 120,000 people were in the labor force in each of the three terminal areas in 2000, which was a decrease since 1990. Unemployment in 2000 (12.6 percent) was down from 1990 (18.7 percent) when the economy was, at best, considered sluggish. In the Livernois-Junction Yard/CP Expressway terminal area, manufacturing was the leading sector for providing jobs, followed by retail trade in 2000. Together, those sectors provided one third of all jobs to the people in this terminal area. This is down from about 41 percent in 1990. Much of the change was picked up in the professional service and entertainment/food service areas. Over 95 percent of all businesses in this terminal area employ fewer than 100 people.

Job forecasts by terminal area are not available. The pattern of job growth forecast by SEMCOG indicates the City of Detroit, in which the Livernois-Junction Yard/CP Expressway terminal area is located, is expected to experience continued job losses until 2020, when the situation is forecast to become stable. Dearborn, on the eastern side of this terminal area, is expected to be stable, i.e., no change in the number of jobs held by the city's population by 2020.

CP/Oak Terminal Area

The CP/Oak terminal area had a population of about 164,000 people according to the 2000 Census (Table 4-11). The minority population of the area was approximately 84 percent with about two percent of the residents being Hispanic and 82 percent African-American. Approximately 21 percent of the area residents live below the poverty level. These characteristics reflect that, while the area's total population declined, there were increases in the area's African-American and Hispanic groups. The Arab population also increased while all other groups shown on Tables 4-11 and 4-12 declined in the 1990s. Poverty declined among the total population in the period 1990 to 2000.

[1] Minority Population is calculated based on the groups protected under FHWA's Environmental Justice guidelines.

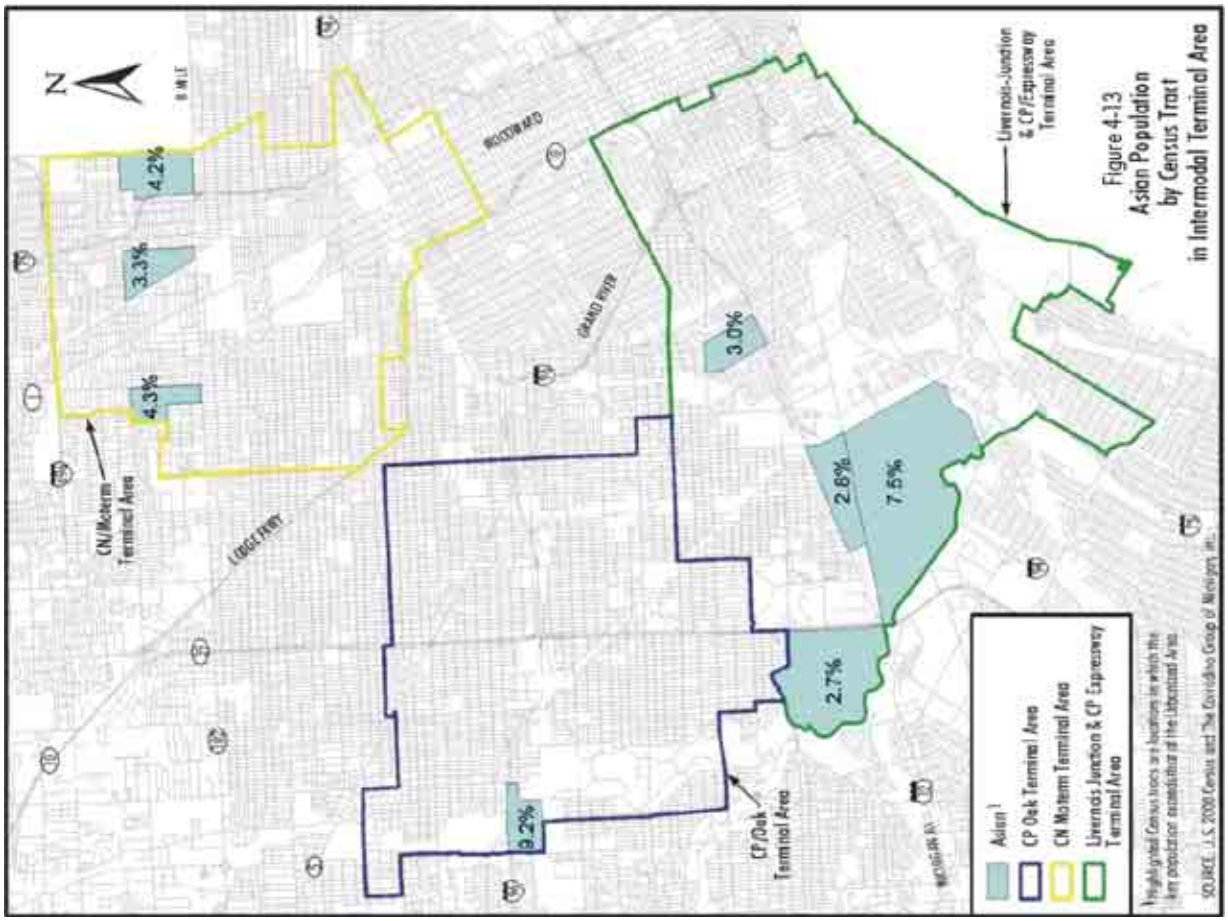


Figure 4-13
Asian Population
by Census Tract
in Intermodal Terminal Area
Livernois-Junction
& CP/Expressway
Terminal Area
CN/Melterm
Terminal Area
CP/Oak
Terminal Area
LODGE FWY
GRAND RIVER
MCNICHOLS RD
8 MILE
N
4.2%
3.3%
4.3%
3.0%
2.8%
7.5%
2.7%
9.2%
Asian 1
CP Oak Terminal Area
CN Melterm Terminal Area
Livernois Junction & CP Expressway
Terminal Area

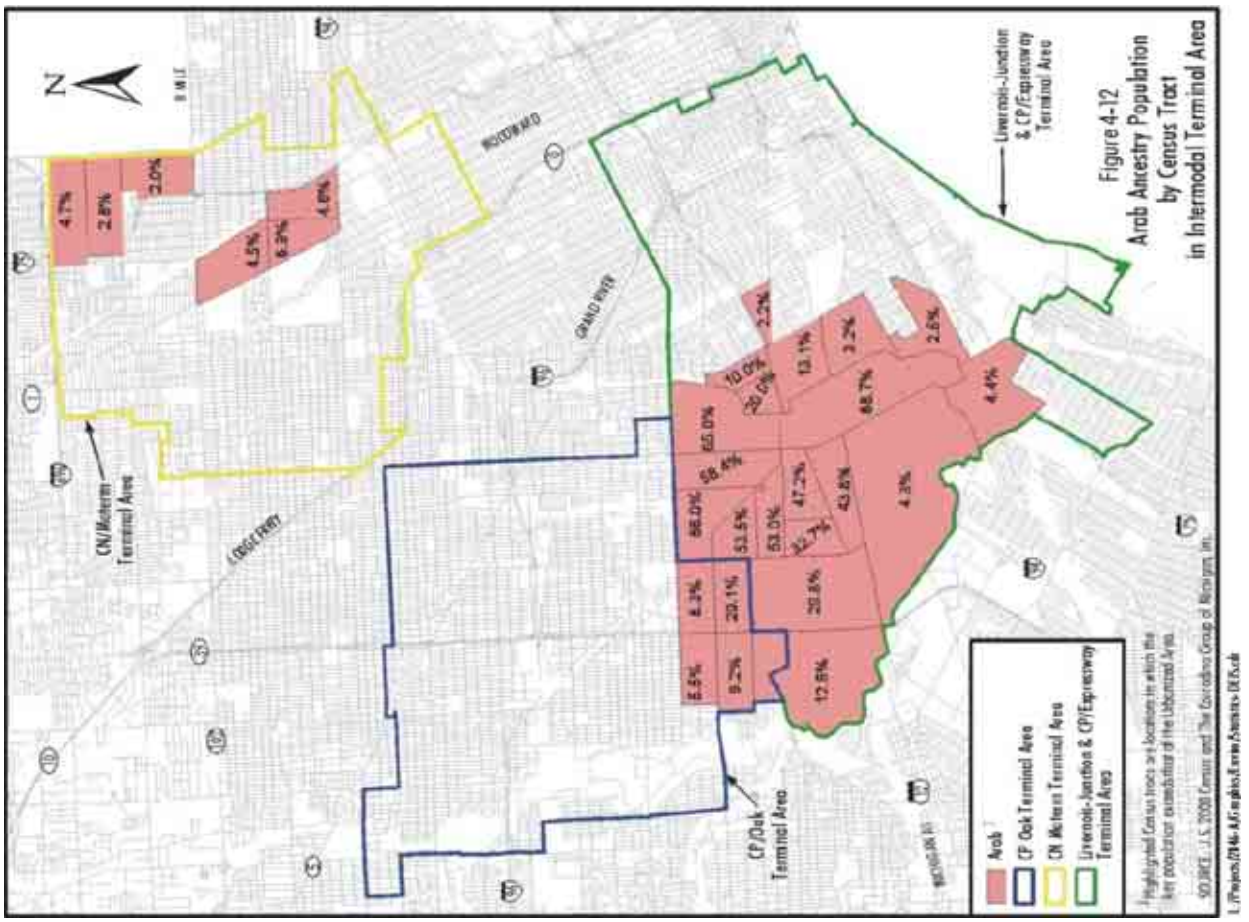


Figure 4-12
Arab Ancestry Population
by Census Tract
in Intermodal Terminal Area
Livernois-Junction
& CP/Expressway
Terminal Area
CN/Melterm
Terminal Area
CP/Oak
Terminal Area
LODGE FWY
GRAND RIVER
MCNICHOLS RD
8 MILE
N
4.7%
2.8%
2.0%
4.5%
6.3%
4.8%
2.5%
10.0%
20.0%
13.1%
3.2%
2.8%
68.0%
68.4%
68.7%
4.4%
66.0%
53.5%
53.0%
47.2%
43.8%
4.3%
8.3%
20.1%
20.8%
8.5%
8.2%
12.8%
Arab 1
CP Oak Terminal Area
CN Melterm Terminal Area
Livernois-Junction & CP/Expressway
Terminal Area

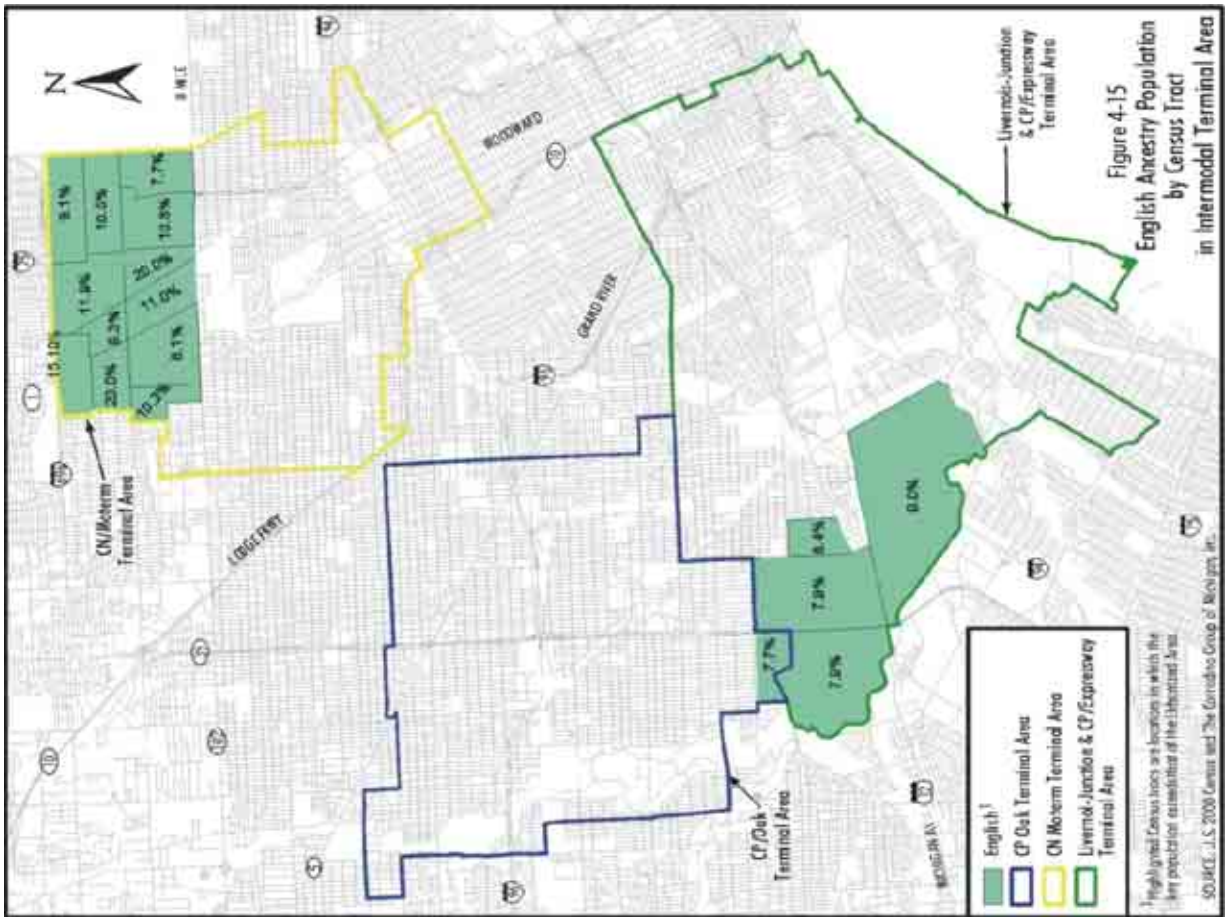


Figure 4-15
English Ancestry Population
by Census Tract
in Intermodal Terminal Area
Livernois-Junction & CP/Expressway Terminal Area
CN/Motern Terminal Area
CP/Oak Terminal Area
GRAND RIVER
ROOSEVELT
LODGE FWY
N
English
CP Oak Terminal Area
CN Motern Terminal Area
Livernois-Junction & CP/Expressway Terminal Area

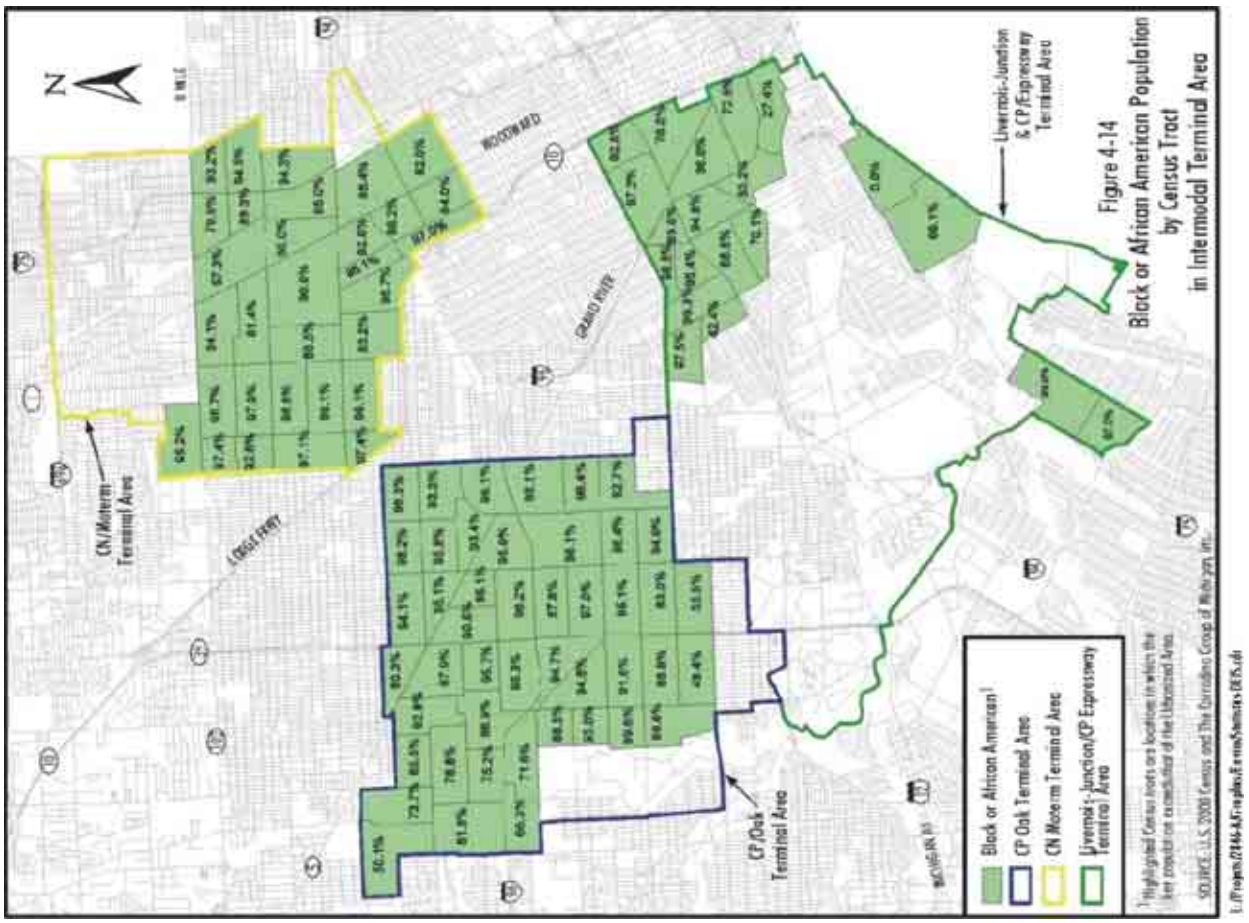


Figure 4-14
Black or African American Population
by Census Tract
in Intermodal Terminal Area
Livernois-Junction & CP/Expressway Terminal Area
CN/Motern Terminal Area
CP/Oak Terminal Area
GRAND RIVER
ROOSEVELT
LODGE FWY
N
Black or African American
CP Oak Terminal Area
CN Motern Terminal Area
Livernois-Junction/CP Expressway Terminal Area

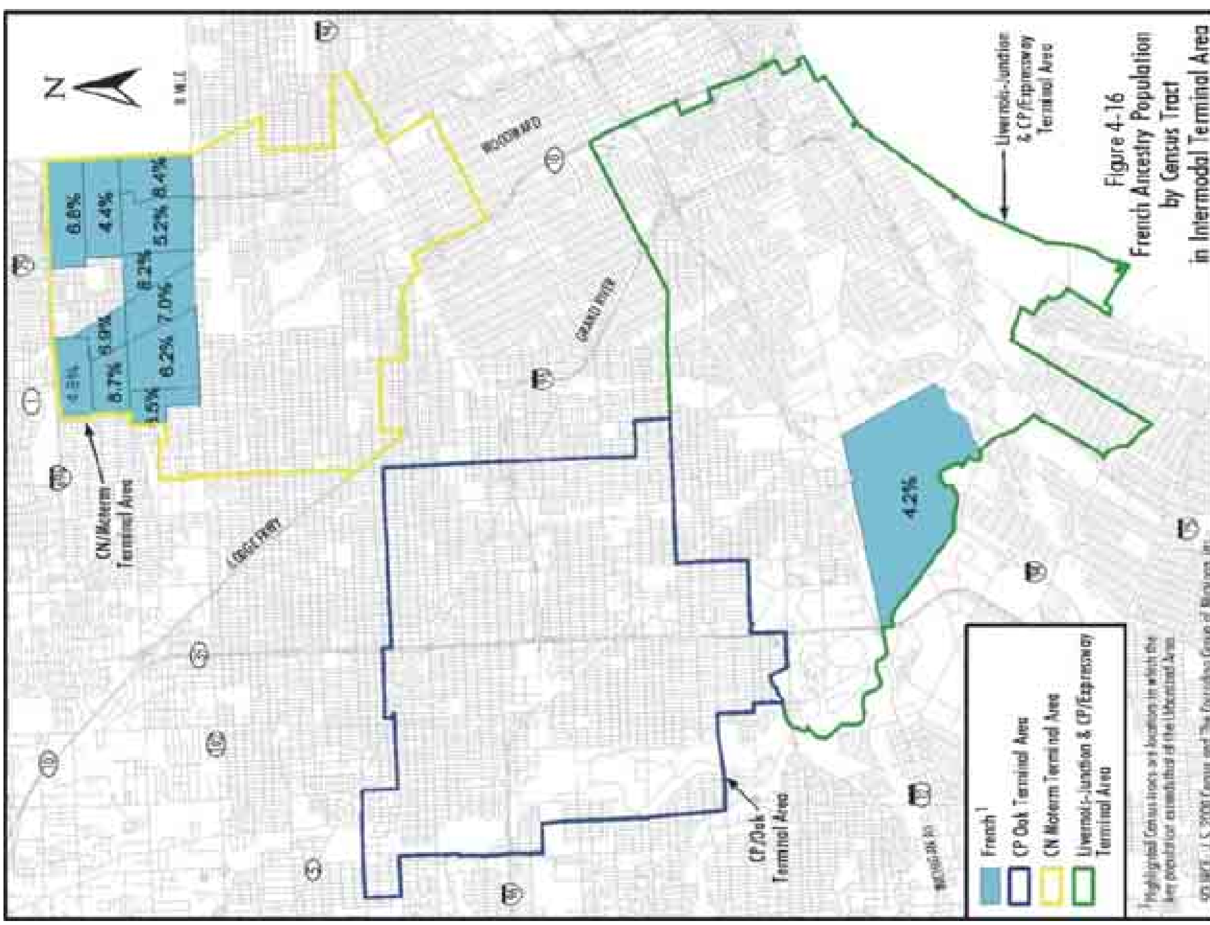


Figure 4-16
French Ancestry Population by Census Tract in Intermodal Terminal Area

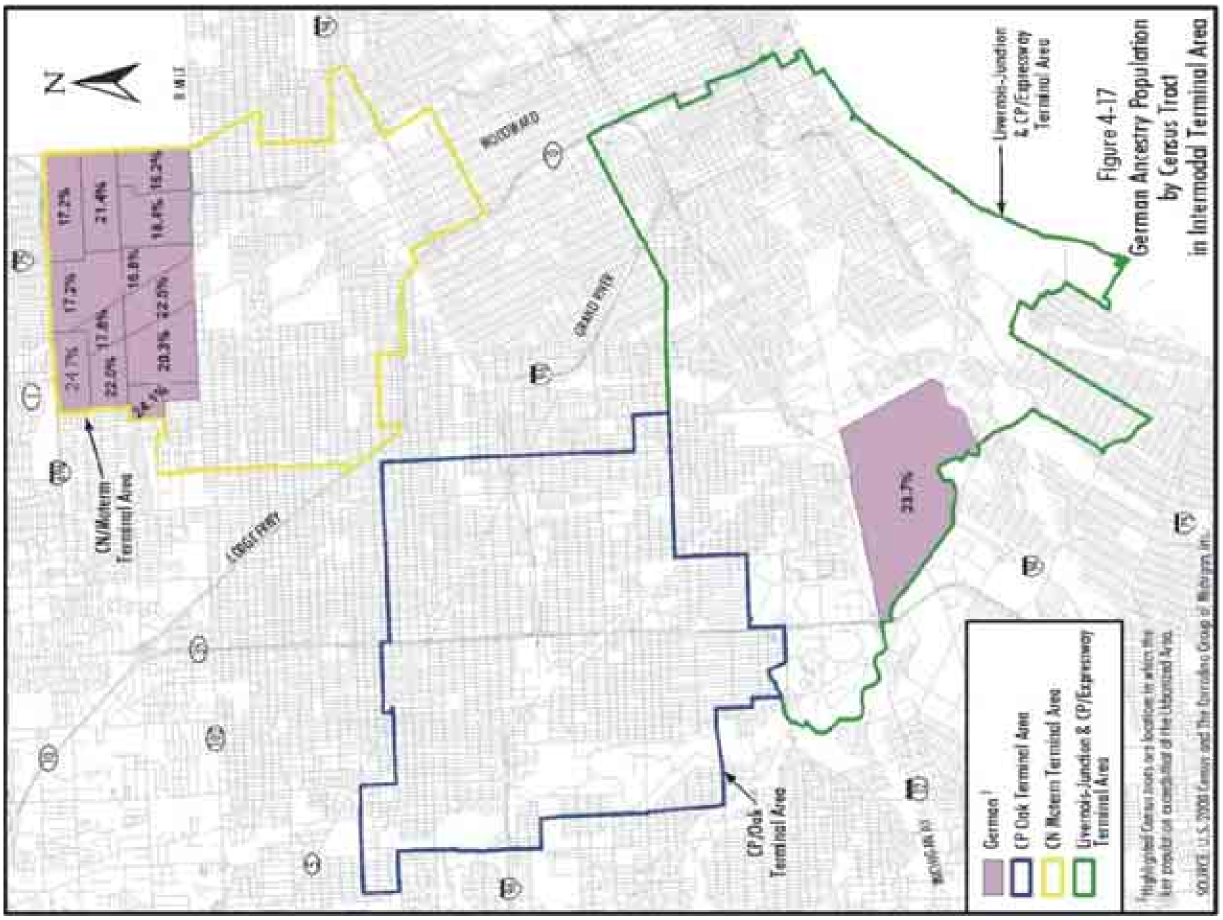


Figure 4-17
German Ancestry Population by Census Tract in Intermodal Terminal Area

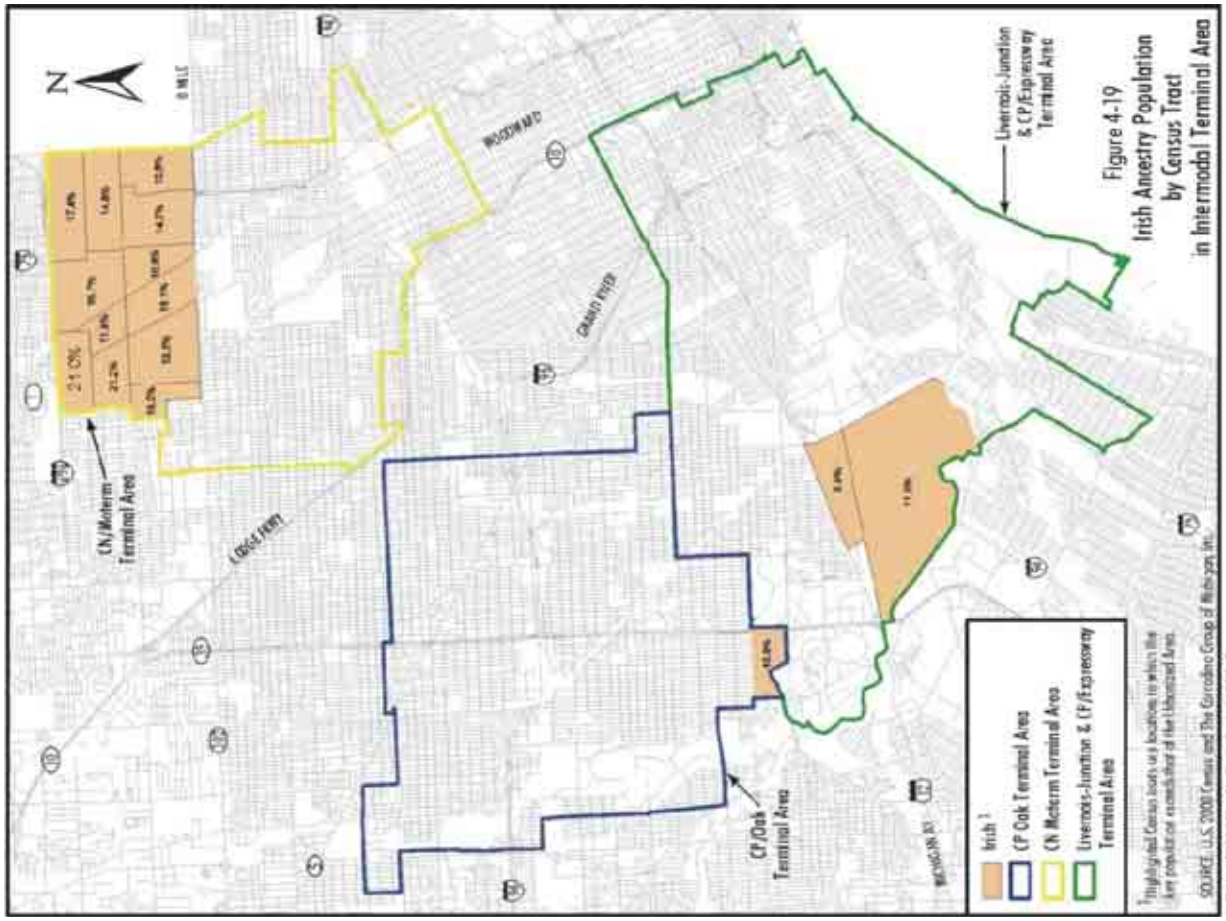


Figure 4-19
Irish Ancestry Population
by Census Tract
in Intermodal Terminal Area
Livernois-Junction
& CP/Expressway
Terminal Area
CN/Motern
Terminal Area
CP/Oak
Terminal Area
Irish 1
CP Oak Terminal Area
CN Motern Terminal Area
Livernois-Junction & CP/Expressway
Terminal Area

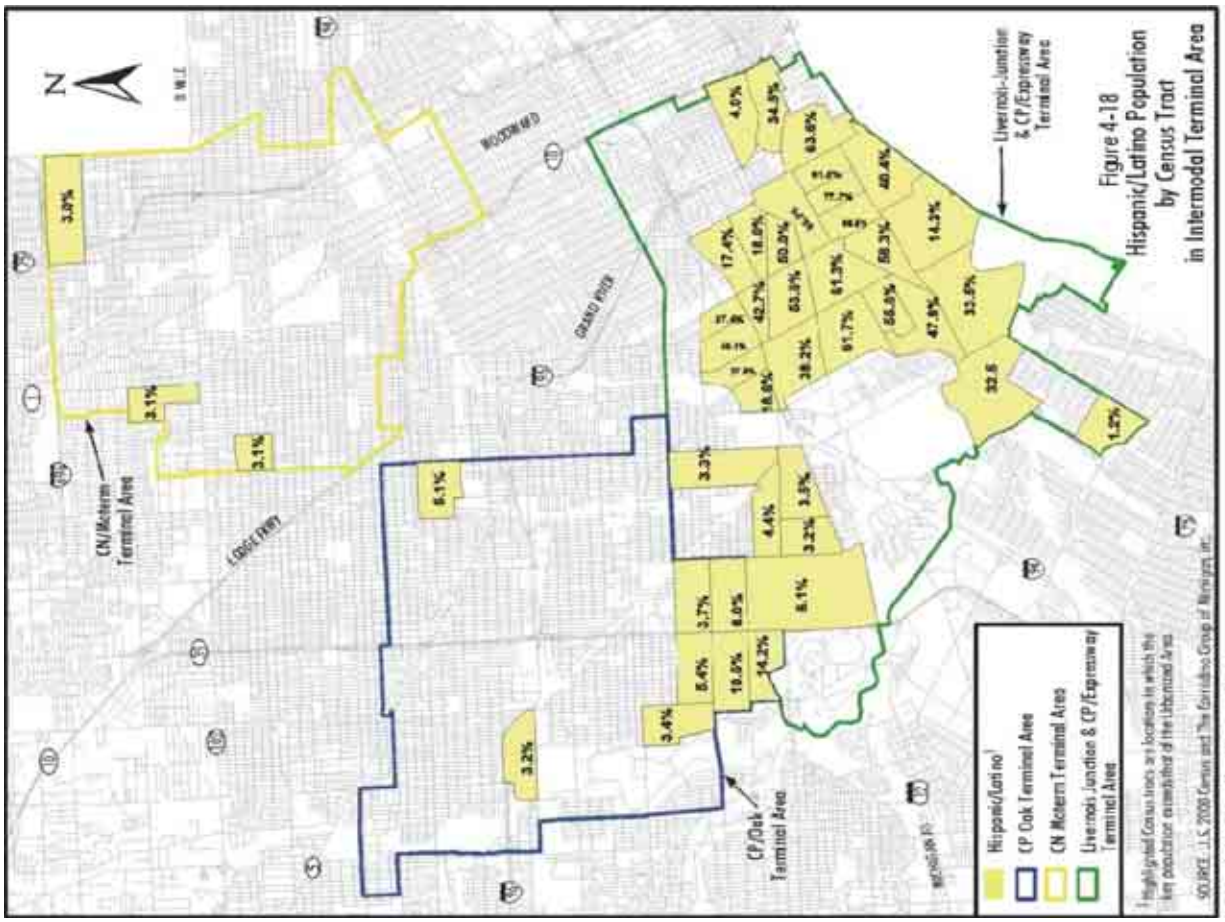


Figure 4-18
Hispanic/Latino Population
by Census Tract
in Intermodal Terminal Area
Livernois-Junction
& CP/Expressway
Terminal Area
CN/Motern
Terminal Area
CP/Oak
Terminal Area
Hispanic/Latino 1
CP Oak Terminal Area
CN Motern Terminal Area
Livernois-Junction & CP/Expressway
Terminal Area

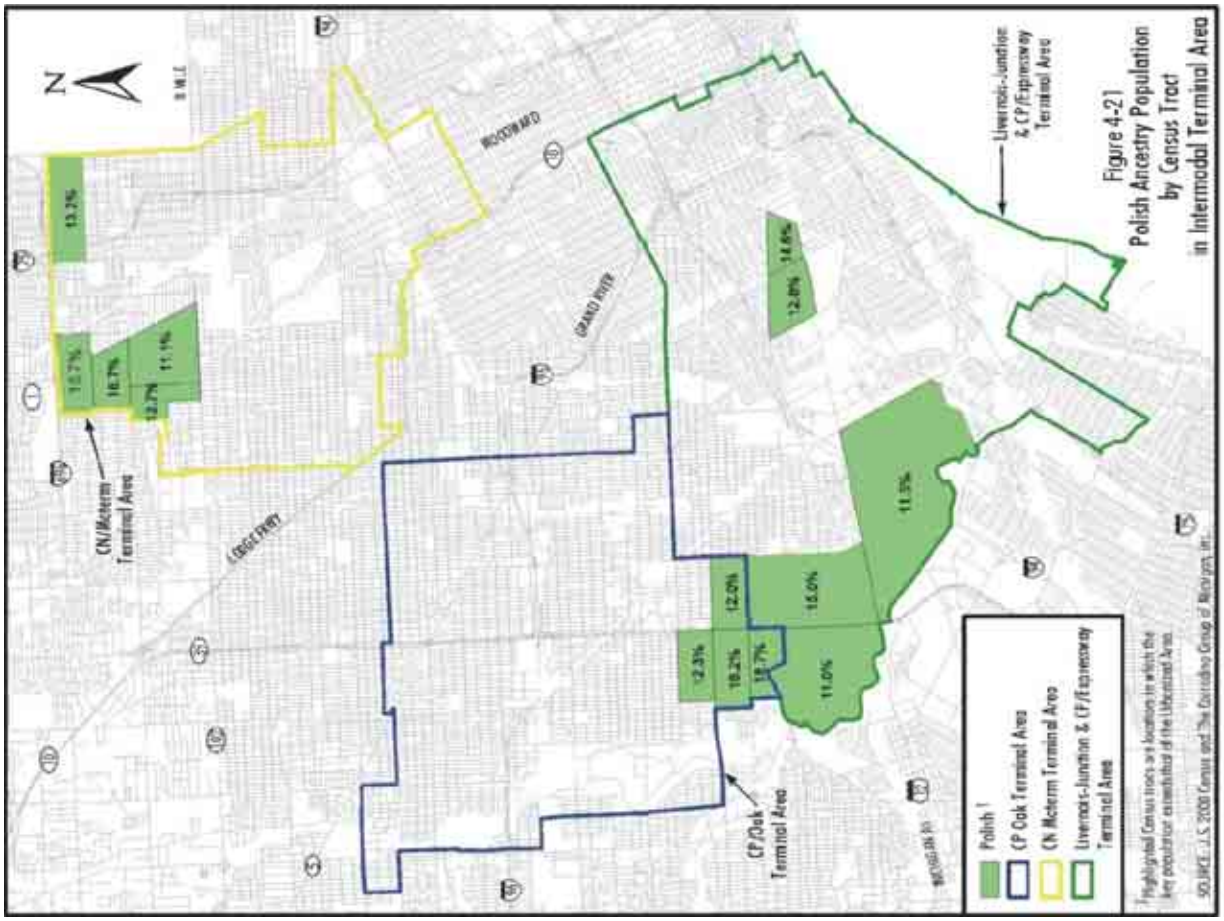


Figure 4-21
Polish Ancestry Population
by Census Tract
in Intermodal Terminal Area
Livernois-Junction & CP/Expressway Terminal Area
CN/Moterm Terminal Area
CP/Oak Terminal Area
Polish 1
CP Oak Terminal Area
CN Moterm Terminal Area
Livernois-Junction & CP/Expressway Terminal Area
SOURCE: U.S. 2000 Census and The Corradino Group of Michigan, Inc.

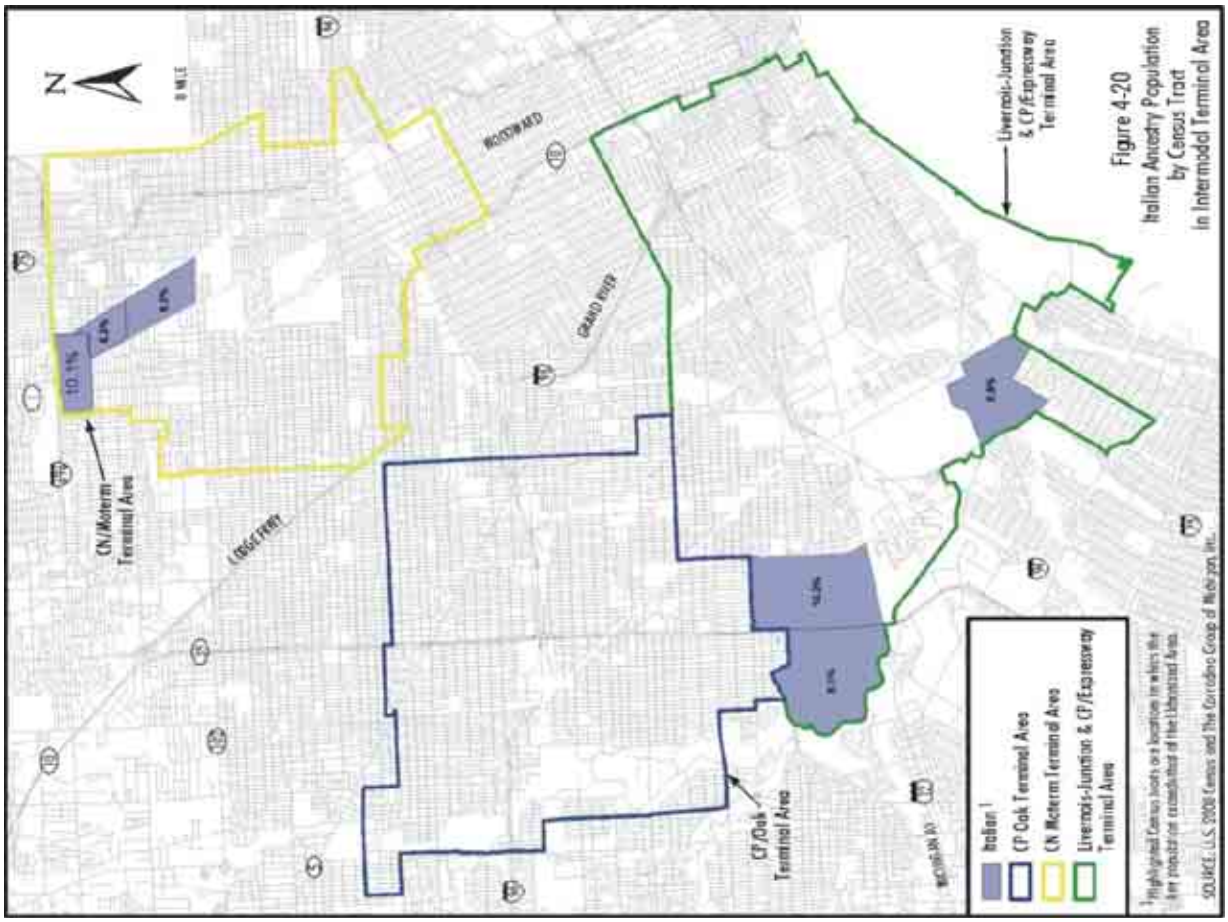


Figure 4-20
Italian Ancestry Population
by Census Tract
in Intermodal Terminal Area
Livernois-Junction & CP/Expressway Terminal Area
CN/Moterm Terminal Area
CP/Oak Terminal Area
Italian 1
CP Oak Terminal Area
CN Moterm Terminal Area
Livernois-Junction & CP/Expressway Terminal Area
SOURCE: U.S. 2000 Census and The Corradino Group of Michigan, Inc.

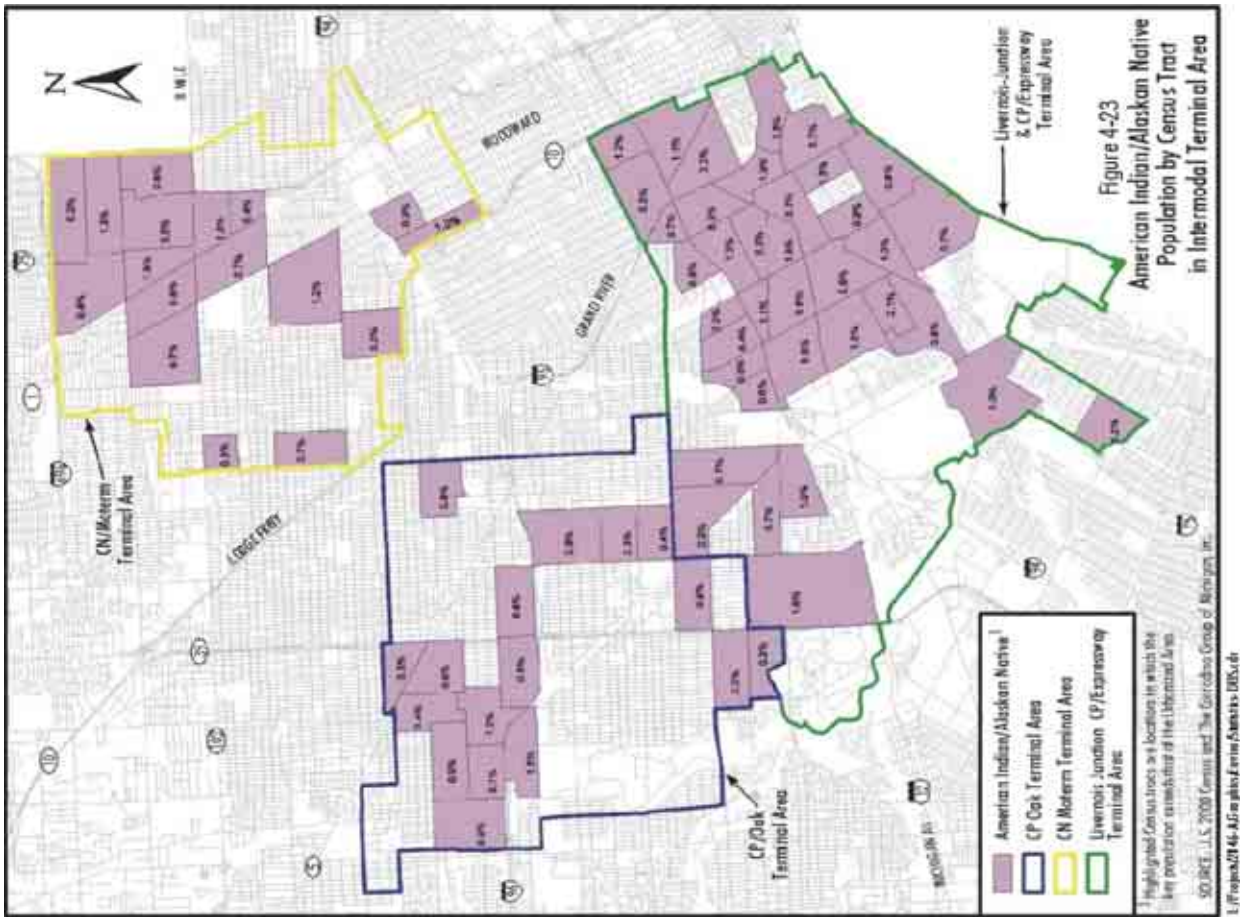


Figure 4-23
American Indian/Alaskan Native
Population by Census Tract
in Intermodal Terminal Area
N
Livernois-Junction
& CP/Expressway
Terminal Area
CN/Modern
Terminal Area
CP/Oak
Terminal Area
American Indian/Alaskan Native[1]
CP Oak Terminal Area
CN Modern Terminal Area
Livernois-Junction CP/Expressway
Terminal Area
SOURCE: U.S. 2000 Census and The Corradino Group of Michigan, Inc.

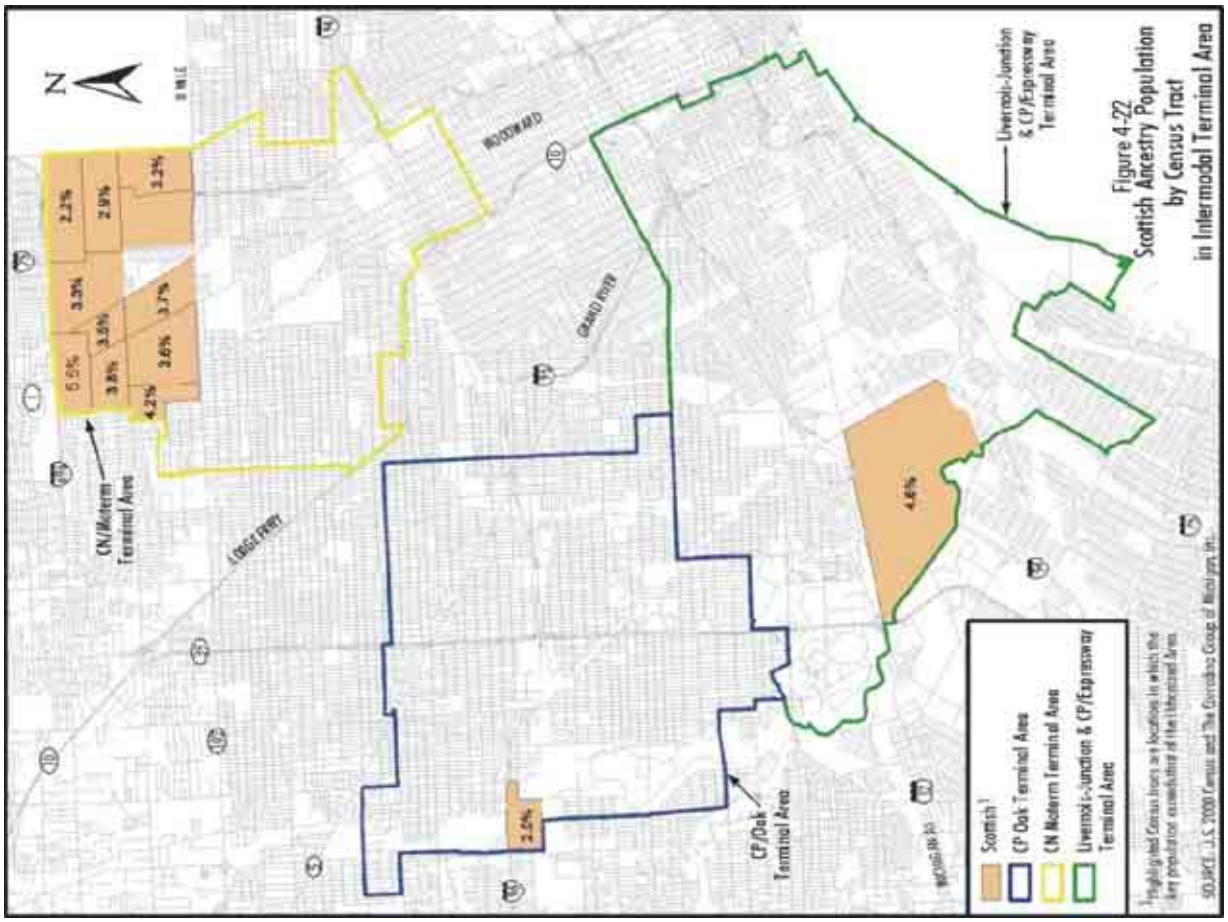


Figure 4-22
Scottish Ancestry Population
by Census Tract
in Intermodal Terminal Area
N
Livernois-Junction
& CP/Expressway
Terminal Area
CN/Modern
Terminal Area
CP/Oak
Terminal Area
Scottish[1]
CP Oak Terminal Area
CN Modern Terminal Area
Livernois-Junction & CP/Expressway
Terminal Area
SOURCE: U.S. 2000 Census and The Corradino Group of Michigan, Inc.

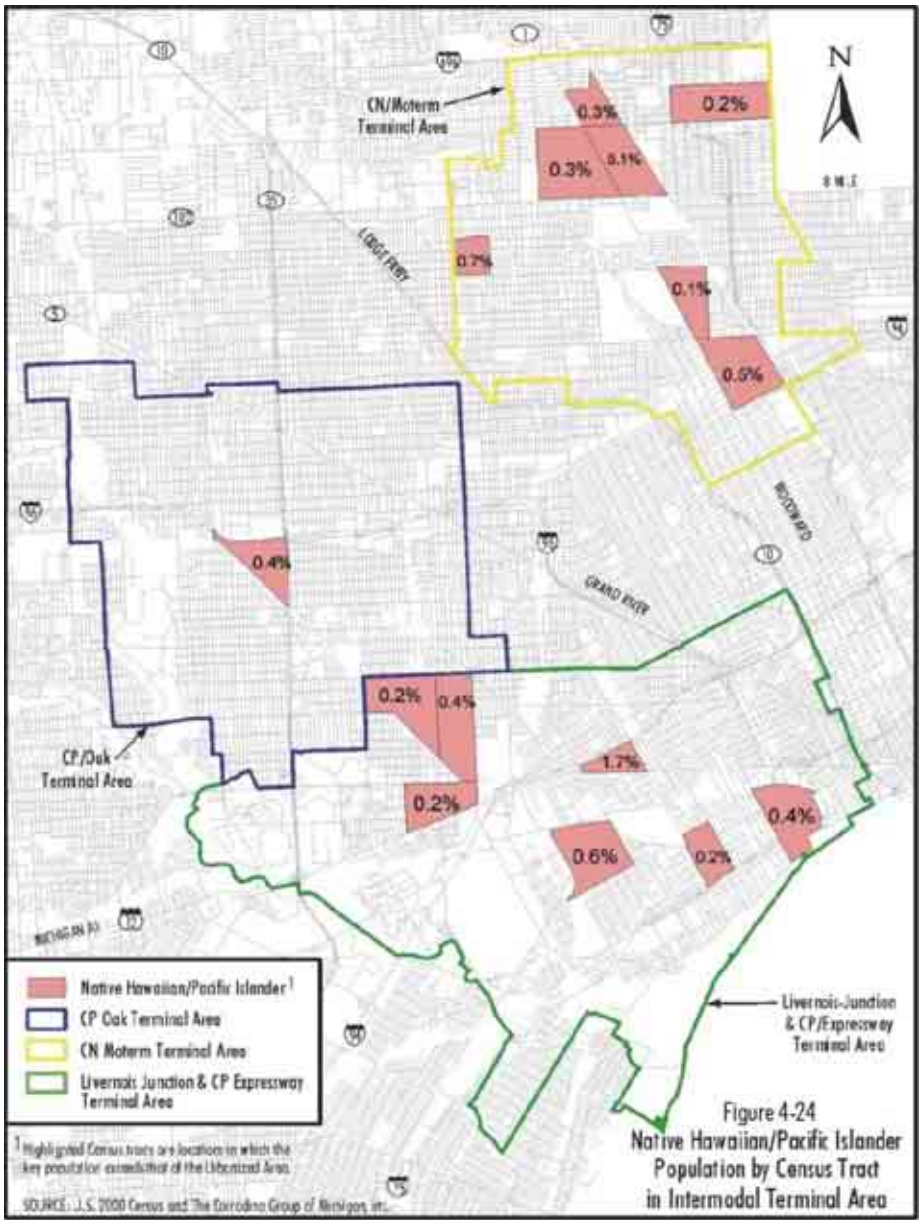


Figure 4-24
Native Hawaiian/Pacific Islander Population by Census Tract in Intermodal Terminal Area

Table 4-13a
2000 Labor Force Characteristics
(Population 16 years and older)

Population Category	Detroit Urbanized Area[a]		Wayne County		Oakland County		Livernois-Junction/ CP/Expressway (Zips 120, 126, 208, 209, 210, 216, 217)		CP/Oak (Zips 223,227,228)		CN/Moterm (Zips 030, 203, 220, 221)	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population 16 and Over	2,979,454	100.0	1,541,459	100.0	926,468	100.0	117,215	100.0	115,039	100.0	106,673	100.0
In Armed Forces	1,385	0.0	421	0.0	124	0.0	4	0.0	24	0.0	11	0.0
In Civilian Labor Force	1,900,002	63.8	930,219	60.3	637,813	68.8	59,074	50.4	69,456	60.4	62,953	59.0
Employed	1,783,325	93.9	851,110	55.2	614,377	66.3	51,619	87.4	61,162	88.1	56,493	89.7
Unemployed	116,677	6.1	79,109	5.1	23,436	2.5	7,455	12.6	8,294	11.9	6,460	10.3
Not in Labor Force	1,078,067	36.2	610,819	39.6	288,531	31.1	58,137	49.6	45,559	39.6	43,709	41.0
Civilian Employment by Industry												
Agriculture, forestry, fishing and hunting, and mining	1,947	0.1	1,044	0.1	919	0.1	193	0.4	46	0.1	38	0.1
Construction	92,077	5.2	39,296	4.6	32,622	5.3	4,184	8.1	2,023	3.3	2,224	3.9
Manufacturing	403,699	22.6	185,856	21.8	134,003	21.8	11,141	21.6	11,379	18.6	10,636	18.8
Wholesale trade	62,868	3.5	26,904	3.2	24,045	3.9	1,487	2.9	1,591	2.6	1,711	3.0
Retail trade	204,353	11.5	90,905	10.7	72,807	11.9	6,733	13.0	6,198	10.1	5,895	10.4
Transportation and warehousing, and utilities	79,170	4.4	54,387	6.4	16,460	2.7	2,508	4.9	4,702	7.7	2,882	5.1
Information	44,707	2.5	21,231	2.5	16,635	2.7	1,090	2.1	1,795	2.9	1,731	3.1
Finance, insurance, real estate and rental and leasing	112,018	6.3	50,591	5.9	43,838	7.1	2,000	3.9	4,184	6.8	3,116	5.5
Professional, scientific, management, administrative, and waste management services	191,336	10.7	77,890	9.2	81,511	13.3	4,966	9.6	5,142	8.4	5,737	10.2
Educational, health and social services	320,181	18.0	158,342	18.6	112,790	18.4	7,495	14.5	12,343	20.2	11,840	21.0
Arts, entertainment, recreation, accommodation and food services	129,545	7.3	68,026	8.0	38,212	6.2	5,512	10.7	5,029	8.2	4,847	8.6
Other services (except public administration)	81,834	4.6	42,366	5.0	25,165	4.1	2,873	5.6	3,345	5.5	3,136	5.6
Public administration	59,590	3.3	34,272	4.0	15,370	2.5	1,437	2.8	3,385	5.5	2,700	4.8

[a]The Detroit Urbanized Area contains the City of Detroit and the densely populated areas surrounding it. It includes most but not all of Wayne and Oakland Counties and a portion of Macomb County.
Source: U.S. 2000 Census

Table 4-13b
1990 Labor Force Characteristics
(Population 16 years and older)

Population Category	Detroit Urbanized Area[a]		Wayne County		Oakland County		Livernois-Junction/ CP/Expressway (Zips 120, 126, 208, 209, 210, 216, 217)		CP/Oak (Zips 223,227,228)		CN/Moterm (Zips 030, 203, 220, 221)	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Population 16 and Over	2,851,655	100.0	1,605,161	100.0	844,127	100.0	120,075	100.0	124,210	100.0	120,402	100.0
In Armed Forces	3,543	0.1	1,540	0.1	453	0.1	79	0.1	141	0.1	158	0.1
In Civilian Labor Force	1,814,901	63.6	963,105	60.0	588,119	69.7	59,765	49.8	77,549	62.4	71,792	59.6
Employed	1,648,189	90.8	843,731	52.6	557,134	66.0	48,589	81.3	64,329	83.0	60,531	84.3
Unemployed	166,712	9.2	119,374	7.4	30,985	3.7	11,176	18.7	13,220	17.0	11,261	15.7
Not in Labor Force	1,033,211	36.2	640,516	39.9	255,555	30.3	60,231	50.2	46,520	37.5	48,452	40.2
Civilian Employment by Industry												
Agriculture, forestry, fishing and hunting, and mining	11,123	0.7	5,508	0.7	5,156	0.9	275	0.6	292	0.5	333	0.6
Construction	70,593	4.3	31,401	3.7	27,769	5.0	1,773	3.6	1,935	3.0	2,178	3.6
Manufacturing	397,126	24.1	200,359	23.7	126,207	22.7	11,538	23.7	13,238	20.6	13,161	21.7
Wholesale trade	74,473	4.5	33,558	4.0	29,649	5.3	1,951	4.0	2,151	3.3	2,161	3.6
Retail trade	289,167	17.5	145,359	17.2	94,257	16.9	9,135	18.8	10,678	16.6	10,056	16.6
Transportation and warehousing, and utilities	99,760	6.1	64,343	7.6	25,348	4.5	3,448	7.1	5,628	8.7	3,886	6.4
Information	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0
Finance, insurance, real estate and rental and leasing	108,863	6.6	52,390	6.2	40,834	7.3	2,494	5.1	-	0.0	3,638	6.0
Professional, scientific, management, administrative, and waste management services	201,823	12.2	94,098	11.2	79,802	14.3	6,320	13.0	11,575	18.0	6,765	11.2
Educational, health and social services	269,794	16.4	142,560	16.9	93,691	16.8	7,187	14.8	11,025	17.1	11,773	19.4
Arts, entertainment, recreation, accommodation and food services	21,061	1.3	10,021	1.2	8,225	1.5	653	1.3	699	1.1	787	1.3
Other services (except public administration)	43,098	2.6	24,645	2.9	12,948	2.3	1,704	3.5	2,182	3.4	1,844	3.0
Public administration	61,308	3.7	39,489	4.7	13,248	2.4	2,111	4.3	4,926	7.7	3,949	6.5

[a]The Detroit Urbanized Area contains the City of Detroit and the densely populated areas surrounding it. It includes most but not all of Wayne and Oakland Counties and a portion of Macomb County.
Source: U.S. 1990 Census

The labor force in this terminal area declined about eight percent between 1990 and 2000 (Table 4-13), which is about the same as the decline in population (Tables 4-11 and 4-12). Unemployment was lower in 2000 (11.9 percent) than 1990 (17.0 percent). The educational/health/social services sector provided the largest number of jobs held by CP/Oak terminal area residents in 2000. It was followed by the manufacturing and retail trade sectors. But, of these, only the services sector realized an increase in the 1990s in the CP/Oak area. Ninety-nine percent of the businesses located in this area have fewer than 100 employees.

CN/Moterm Terminal Area

The CN/Moterm terminal area had a population of about 141,000 people in 2000 as indicated by the U.S. Census (Table 4-11). The minority population in the area was approximately 67 percent of the total with the Hispanic population being about one percent and the African-American population at 65 percent of the area's total. This is a decline since 1990 in the Hispanic population's share of the area's total and an increase in the African-American share (Tables 4-11 and 4-12). All other populations declined in the 1990 to 2000 period as did the total population. Approximately 19 percent of the population in the area lived below the poverty level according to the 2000 Census, down from more than 23 percent in 1990.

The labor force in the CN/Moterm terminal area declined 12 percent from 1990 to 2000 which was a decline comparable to that in the area's population. Unemployment in 2000 was at 10.3 percent which is lower than in 1990 (15.7 percent) (Table 4-13). Most of those in the terminal area in 2000 were employed in the manufacturing and retail trade sectors. But, both sectors' share of the total labor force declined from 1990 (Table 4-13). Most of the increase in labor force shares was in the services areas, particularly entertainment/food services. Ninety-eight percent of the businesses there employ fewer than 100 people.

Historical TrendsAll Terminal Areas

African Americans, along with Germans, form the largest ethnic groups of the Detroit Urbanized Area (Table 4-11). However, the African American, Hispanic and Arab populations represent at least two-thirds of the people in the three terminal areas. A brief summary of the historical trends of these groups follows.

> African American Population[2]
> By the middle of the nineteenth century, African Americans had established several small enclaves in Michigan, most notably in Detroit. Some black immigrants had come by the Underground Railroad, but most were freed slaves.
>
> Population movement patterns changed in the 1900s as lumbering and mining industries declined, and manufacturing, especially the automobile industry, grew. When Henry Ford increased wages from $2.30 to $5.00 per day, double the going factory rate, other manufacturers soon followed. Workers flocked to Detroit from all over the world. African Americans, in large numbers, found work in Detroit's factories. Between 1910 and 1920, Michigan's African American population rose from about 17,000 to over 60,000. By 1930 it was about 170,000, with 120,000 residing in Detroit. Two General Motors companies, Buick and Chevrolet, were among those industrial magnets that heavily recruited African Americans.

[2] Lewis Walker, Benjamin C. Wilson, Linwood H. Cousins; "African Americans in Michigan." Michigan State University Press. 2001.

The African American population in the Detroit Urbanized Area is about 26 percent of the area's total according to the 2000 Census. That is up slightly from the share of the 1990 population. African Americans are the majority in the CP/Oak and CN/Moterm terminal areas, with greater shares of these areas in 2000 compared to 1990. On the other hand, African Americans declined in absolute numbers and as a share of the 2000 population in the Livernois-Junction Yard terminal area.

Hispanic Population[3,4,5]

As defined by the U.S. Census Bureau, Hispanics are those people who classified themselves in one of the following categories listed on the Census 2000 questionnaire – "Mexican, Mexican American, Chicano," "Puerto Rican," or "Cuban" as well as those who indicate that they are from countries of Central or South America, the Dominican Republic, or people identifying themselves generally as Spanish, Spanish American, Hispanic, Hispano, and Latino.

The Mexican community has been a part of Michigan's history since 1910 when only 27 Mexicans lived in the City of Detroit.[6] Today there are more than 33,000 Mexicans living within Detroit's borders. The first wave of migration was influenced by the railroad industry during the early twentieth century. Mexicans also worked in the agricultural and mining industries. The second wave of migration occurred during World War II when a labor shortage led to the *Bracero* program which allowed American businesses to bring Mexican laborers into the U.S. During the late 1950s, the number of Mexican laborers peaked in the U.S. at over 400,000. The third and current wave of migration is largely due to changes in immigration laws, the organized nature of the Mexican-American community throughout the United States, and the political relationship between the United States and Mexico. Today, the Mexican community is not only the largest group within the Hispanic community nationally, but it is also the largest in the state of Michigan, and in the Detroit Urbanized Area.

Puerto Ricans are the second largest Hispanic group living in the Detroit Urbanized Area. Between 1910 and 1920, their numbers in Detroit grew from 11 to 121. The Puerto Rican population during the 1950s totaled about 1,000 within the City of Detroit. The mid-1960s to mid-1970s experienced a large growth in the Puerto Rican community.

The Cuban community is the Detroit area's third largest Hispanic population at about 2,600 people. Its formation is largely associated with the Mariel boatlift of the early 1980s.

Detroit's Hispanic population grew by over 100 percent in numbers and in share of the urbanized area's population from 1990 to 2000. It is now at 116,770 people or three percent of the Detroit Urbanized Area total population, according to the 2000 Census. And, while the numbers of Hispanics (no larger than 3,000) and shares (less than 2%) of total population are small in the CP/Oak and CN/Moterm terminal areas, they are triple

[3] David A. Badillo; "Latinos in Michigan." Michigan State University Press. 2003.
[4] Rudolph Valier Alvarado, Sonya Yvette Alvarado; "Mexicans and Mexican Americans in Michigan." Michigan State University Press. 2003.
[5] Harvey Santana, "Hispanic Study of Metropolitan Detroit, Journey Towards a Vibrant Community." United Way Community Services. 2003.
[6] U.S. Bureau of the Census, Fourteenth Census, vol. 3, Population by State, table 12, pp. 492-495.

the 1990 statistics. In the Livernois-Junction/CP Expressway terminal area, the Hispanic population grew by over 500 percent between 1990 and 2000.

Arab Population[7]

The U.S. Census defines Arabs as those people who classify themselves as: Egyptian, Iraqi, Jordanian, Lebanese, Moroccan, Palestinian, Syrian, Arab/Arabic, and Other Arab.

Immigration from the Middle East to the United States extends back over 100 years, with the first arrivals coming in the mid- to late-nineteenth century. Many of these immigrants settled in metropolitan Detroit, where the growing automotive industry provided a great incentive. Gradually, metropolitan Detroit became home to an ever-increasing number of people whose roots lie in the Middle East.

Although economics were the primary motivation for the early immigrants, later immigrants had different reasons to leave their homes. Repeated periods of civil strife and military activity, starting in the early 1930s and continuing to today, forced refugees to find safety elsewhere. Detroit was a promising destination for many, given its need for an industrial workforce and because the existing Middle Eastern community served as a magnet for new arrivals.

The two sub-communities that experienced the largest growth during later immigration periods are the Yemenis and the Chaldeans. The Yemeni community can be found in two primary locations: in the south end of Dearborn (i.e., the Livernois-Junction terminal area) and in Hamtramck. The Chaldeans are found in great numbers in the CN/Moterm terminal area, particularly in the area bounded by Woodward Avenue, John R., Seven Mile and Eight Mile Roads.

The Arab population in the Detroit Urbanized Area has now grown from about 58,000 to over 91,000 between 1990 and 2000 as defined by the U.S. Census. This is an increase in share of the total population from 1.6 percent to 2.3 percent. The growth in the Arab population is most pronounced in the Livernois-Junction/CP Expressway terminal area, which includes a portion of the City of Dearborn. There, the Arab population doubled between 1990 and 2000. The trend in Arab population growth is also up in the community around the CP/Oak terminal but down in the CN/Moterm terminal area.

Interviews

With this background, and using GIS databases, various facilities that define the social/cultural conditions, as well as the economic fabric of the areas, were mapped (Figures 4-10 and 4-11). These facilities include places of worship, schools, parks, shopping centers, community/recreational centers, libraries, hospitals, fire stations, police stations, groceries, laundromats, and banks. They were field verified, to the extent possible. Then, community organizations/individuals with an understanding of the cultural/historical significance of each terminal and/or the key populations of the area were contacted. More than 50 interviews were conducted. The following summarizes the results of those discussions. (Refer to Section 7 for more complete documentation of the interviews.)

[7] Gary David; "The Mosaic of Middle Eastern Communities in Metropolitan Detroit." Information and Research Services, United Way Community Services.

Livernois-Junction/CP Expressway Terminal Area

Over two dozen groups/individuals in the Livernois-Junction/CP Expressway terminal area were interviewed. The most-frequently cited community facilities are schools and places of worship. Important organizations mentioned include the Arab Community Center for Economic and Social Services (ACCESS), Community Health and Social Services (CHASS), Detroit Hispanic Development Corporation (DHDC), LA SED, Latino Family Services, and Mexicantown Community Development Corporation. Social groups mentioned are the Puerto Rican Club, the Yemen Social Club and Kemeny Recreation Center.

Issues of interest include the need for education (including English as a second language), jobs and job training, and personal security. A number of groups cited health care, housing and sustaining the area's revitalization (both housing and commercial development, including small business development) as key concerns. The continued importance of West Vernor Avenue as a neighborhood commercial corridor was mentioned as a matter of importance. Replicating that success on Michigan Avenue was cited.

Projects in the area that are emerging include the Riverfront Revitalization and Reuse of Tiger Stadium, the Mercado/Welcome Center at the Ambassador Bridge Gateway, the housing revitalization near Roberts Avenue in East Dearborn and many smaller housing and commercial projects.

Traffic, especially, heavy-duty truck traffic in the area, was often mentioned as a concern. So are the related environmental issues, particularly pollution and its relationship to asthma. The latter is of concern because many people in the terminal area have little or no means to pay for health care/medications.

CP/Oak Terminal Area

Four groups/individuals were interviewed to discuss community facilities and services in the CP/Oak terminal area. Here, too, places of worship were cited as key institutions/facilities. Others noted include the North Rosedale Community House and O'Shea Recreation Center. Key service programs are Head Start as well as the Police Athletic League.

Issues of significance include stabilizing housing in the area, addressing crime and trash. Traffic was also cited as an issue. The rail yard and related activities were not singled-out as a particular concern. It was noted the railroads have the potential of being a good neighbor in the community.

CN/Moterm Terminal Area

Eight groups/individuals were interviewed in the CN/Moterm terminal area. Again, the places of worship and schools (including the several schools in Ferndale) were frequently cited as important community facilities. Additional facilities of community importance are the Kulick and Tindal Centers in Ferndale, the State Fairgrounds, and housing centers (like the Hilton Apartments) that serve the elderly and those of lower income. Frequently mentioned in the interviews was the Chaldean community in terms of its facilities and services as well as the energy offered in revitalizing the housing and business facilities in the area around Seven and Eight Mile Roads, Woodward and John R.

Issues of importance in this terminal area are sustaining and enhancing the development along Woodward Avenue in both Ferndale and Detroit and revitalizing Eight Mile Road. Concerns about railroad terminal operations, including possible expansion of the CN/Moterm rail yard, include: the blocking by trains of traffic movements including school buses and emergency equipment; noise; air pollution; increased truck traffic; depreciation of housing values; and, the threat to desired developments at the State Fairgrounds (i.e., a metro park) and at the southeast corner of the intersection of Woodward Avenue and Eight Mile Road. The potential of the expanded intermodal terminal thwarting those desired projects was stressed as a concern.

Other Organizations

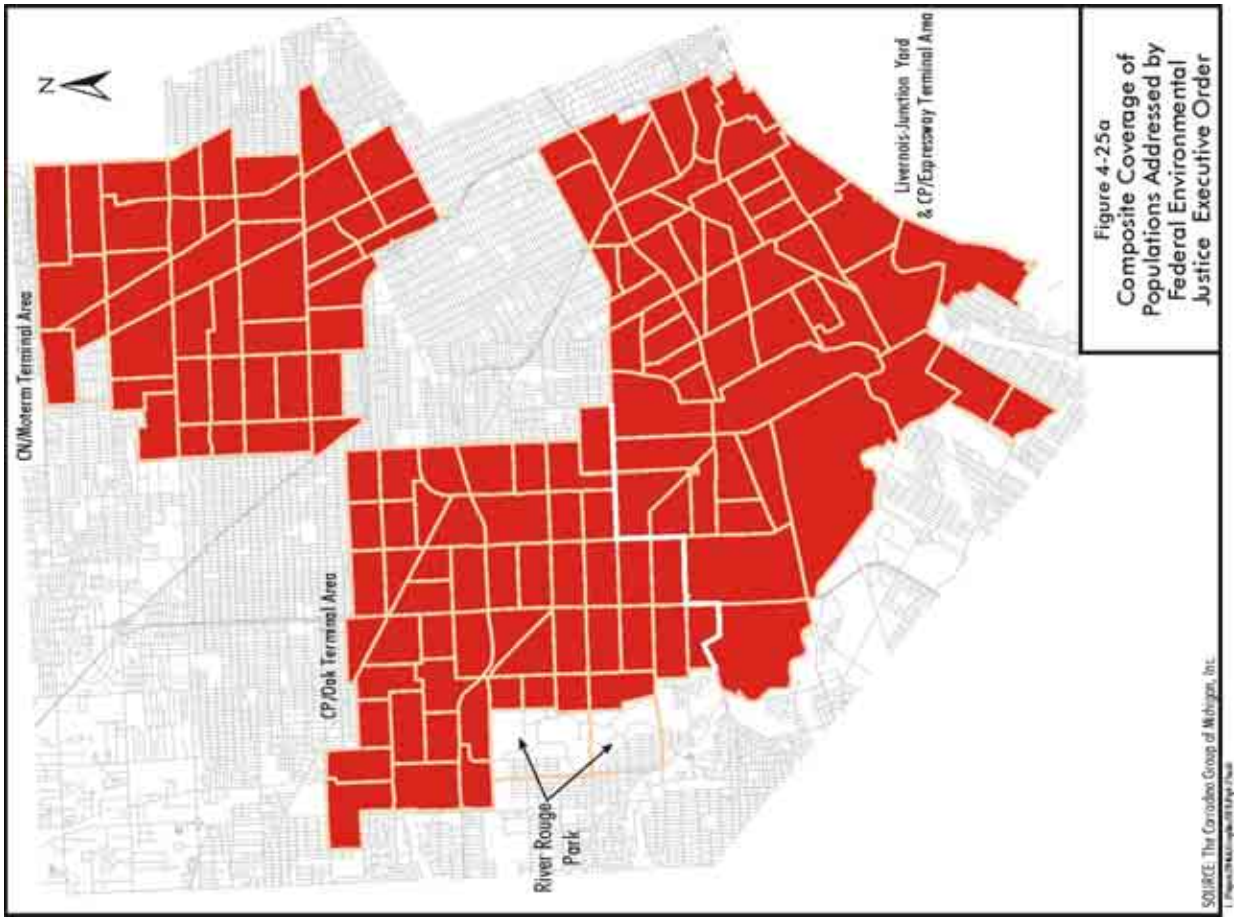
A dozen groups/individuals not specifically focused on a terminal area were also interviewed to provide an overview of social/cultural issues of key populations in general. When addressing the German, Irish and Polish communities, the clear indication is the decline of concentration of these ethnic groups and the services/facilities/organizations, including places of worship, to support them. A review of Tables 4-11 and 4-12 echoes that trend as all non-minority ethnic groups, except the Arab community, declined in the Detroit Urbanized Area in the 1990s. Most significant among these are the Irish, German and Polish. This trend is repeated, but with less significant declines, in each terminal area.

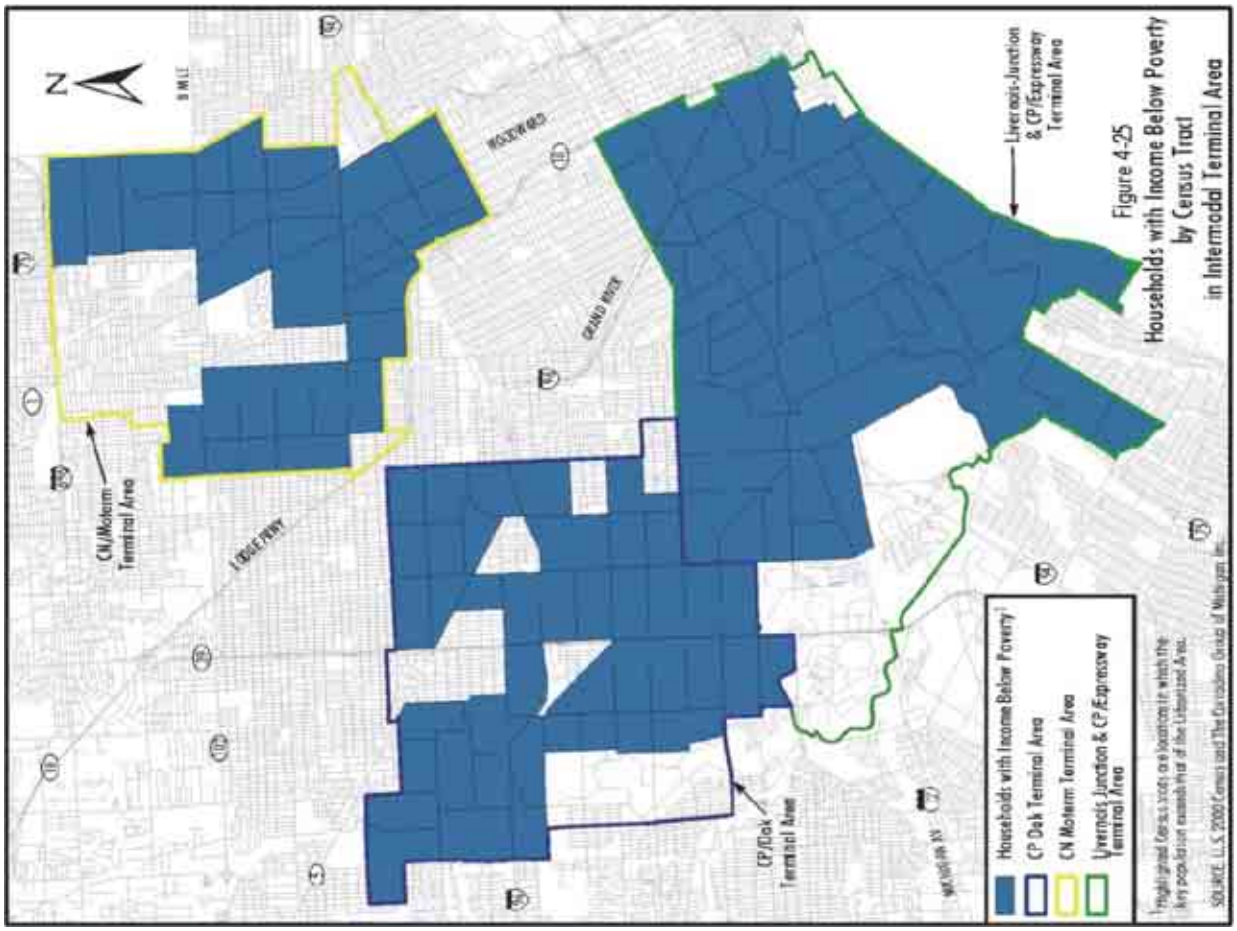
Views by non-terminal area-based groups that are focused on African-American issues, indicate concern about jobs, job training, crime, and health care/substance abuse. Those non-terminal groups that are focused on Hispanic issues also view employment, education, crime and health care as key concerns.

4.3.2 Environmental Justice

Presidential Executive Order 12898 sets out objectives and procedures to identify, address, and avoid disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. The affected populations were identified by analyzing Census data (Table 4-11), consulting with local citizens/organizations and agencies, and field review.

The population data presented include the minority groups addressed in Executive Order 12898: African-American, American Indian/Alaskan Native, Asian, Native Hawaiian/Other Pacific Islander and Hispanic/Latino. Figures 4-13, 4-14, 4-18, 4-23 and 4-24 depict the geographic extents of the terminal areas as well as a definition of those groups covered by the federal Environmental Justice (EJ) Executive Order. Shaded areas indicate census tracts in which the EJ demographics exceed the rate of that characteristic for the Detroit Urbanized Area. In addition, low-income households, which are covered by the Environmental Justice Executive Order, and include people of all ethnicities, are also presented (Figure 4-25). When all populations covered by the Environmental Justice Executive Order are combined (Figure 4-25a), it can be seen each terminal area is dominated by these special groups. The area on the west side of the CP/Oak terminal is not an EJ-affected location because of the presence of the River Rouge Park.


N
CN/Moterm Terminal Area
CP/Oak Terminal Area
River Rouge Park
Livernois-Junction Yard & CP/Expressway Terminal Area
Figure 4-25a
Composite Coverage of Populations Addressed by Federal Environmental Justice Executive Order
SOURCE: The Corradino Group of Michigan, Inc.


N
5 MILE
GRAND RIVER
LYNDON
CN/Moterm Terminal Area
CP/Oak Terminal Area
Livernois-Junction & CP/Expressway Terminal Area
Figure 4-25
Households with Income Below Poverty by Census Tract in Intermodal Terminal Area
Households with Income Below Poverty
CP Oak Terminal Area
CN Moterm Terminal Area
Livernois Junction & CP/Expressway Terminal Area
SOURCE: U.S. 2000 Census and The Corradino Group of Michigan, Inc.

At the beginning of the 20th century, cities attracted farmers and international immigrants with the opportunity for higher income in industrial jobs (Figure 4-25b). Cities like Detroit experienced their highest growth from 1900 to 1930. After a lull during the Depression and World War II (the period 1930 to 1950), growth resumed as a result of increased prosperity, family size, and mobility. Suburbanization continued during the 1965-to-2000 period at places farther from the traditional core cities. The "rubber-tire revolution" began in the early 1920s. Prior to that time, rail systems and associated industry played a dominant role in the location of most households and businesses. The motor vehicle and region-wide paved roads began changing this pattern. By the 21st century, many of the industrial jobs first brought by the railroads had left. The more mobile elements of the population also left. An increasing proportion of the population was minority or poor as described in the previous section.

In studying the effects on those populations covered by the federal Environmental Justice Executive Order, it is first important to review the alternatives presented in Section 3.2 that are eliminated from further study. This is helpful to understand whether there are any reasonable and practical options to avoid areas affected by the EJ Executive Order.

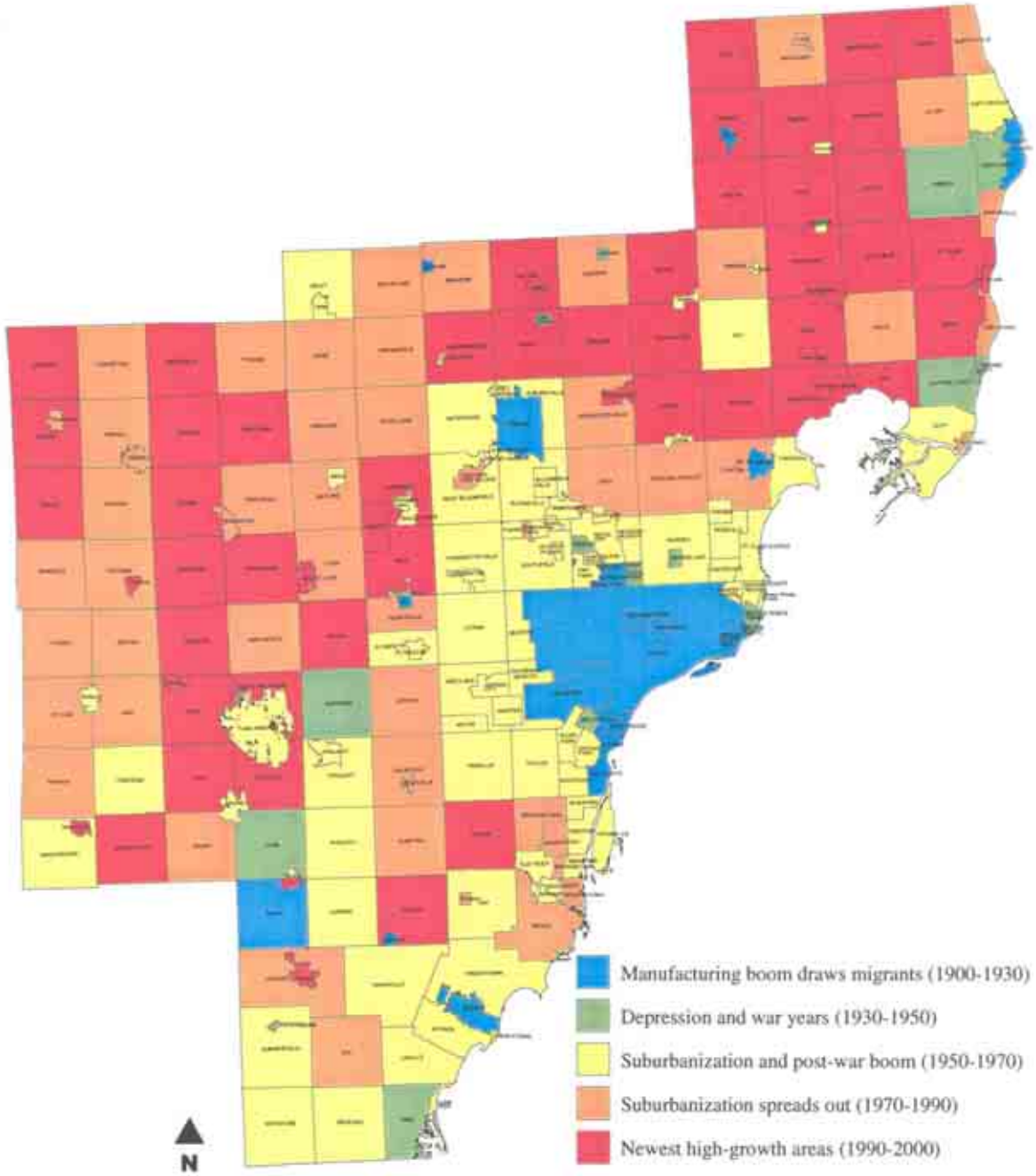
First is the option of using other sites than the four terminals covered in Alternative 2. This option of fragmenting the intermodal network is not a reasonable or practical option based on the DIFT Statement of Purpose. Specifically, since the 1980s, railroads have consolidated their intermodal service networks into fewer, larger hub terminals as they saw an opportunity to consolidate enough volume in one location to justify lift machines and other expensive equipment/facilities. Small facilities have been eliminated because they do not lend themselves to productive intermodal operations. And, while an existing terminal like Melvindale, and even Willow Run, could be used for some time into the future, each is in an area affected by EJ issues by virtue of the way the rail network and then the community have evolved over the last 100 years.

Another option is to develop a "greenfield" site at a relatively undeveloped property for an intermodal terminal. These sites tend to be removed from the shippers that they will be serving. This results in increased distance/time to haul goods (drayage) and contributes to highway congestion creating a less efficient intermodal transportation system, which is counter to the purpose of this project.

DIFT studies in 1993/1994 conducted for MDOT by Mercer Consulting examined possible "greenfield" sites. One, Willow Run, while having several attributes, was served by only a single railroad at the time, Conrail. Since the sale of the Conrail assets, Norfolk Southern now controls access to the location. Additionally, Willow Run has been proposed for high-speed passenger service. The earlier MDOT studies found that the Willow Run site was far from its market with high pickup and delivery costs. But, because of Triple Crown business growth, NS has had to temporarily reopen the Willow Run terminal or lose business. But, even the Willow Run site does not avoid the concern about EJ issues. Analysis of U.S. Census data indicate those concerns exist for every protected population group.

Nevertheless, a "greenfield" site does not meet the purpose of the project because it results in increased distance/time to haul goods (drayage) and contributes to highway congestion creating a less efficient intermodal transportation system. Again, this approach is counter to the DIFT Statement of Purpose.

Figure 4-25b
Peak Growth by Community in Southeast Michigan
1900-2000



Source: SEMCOG

Therefore, the alternatives addressed in this DEIS are those that are considered reasonable and practical. They affect areas with significant population groups covered by the EJ Executive Order.

The issue then, consistent with the Executive Order, is whether the development of Alternatives 2, 3 and 4 would create disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. To make that determination, the following impacts were assessed for those key EJ populations:

- Mobility
  - ✓ Traffic changes associated with creating the DIFT
- Economic Impacts
  - ✓ Jobs (those relocated inside the terminal area and new jobs gained in the terminal area)
- Land Use
  - ✓ Conversion of land uses
- Air Quality
  - ✓ Localized air emissions burden
  - ✓ Regional air quality effect
- Community Effects
  - ✓ Number of residential units and business properties potentially affected
  - ✓ Effects on community cohesion
  - ✓ Potential environmental justice issues
  - ✓ Change in aesthetics
- Noise
  - ✓ Noise exposure of sensitive receptors (e.g., schools, places of worship, residential properties)
- Cultural Resources
  - ✓ Change in historic/archaeologic resources
  - ✓ Change in parklands
- Contaminated Sites
  - ✓ Number needing additional testing
- Water
  - ✓ Water quantity and quality as affected by changes in drainage
  - ✓ Quantity and quality of wetlands affected

The direct and indirect effects are summarized in Table 4-14. The cumulative effects are summarized in Table 4-15. While these effects are discussed in detail in other sections of this DEIS, a summary review of them is presented here.

Alternative 1: No Action

Livernois-Junction Yard/CP-Expressway Terminal Area

The analyses presented throughout this document, the results of which are summarized in Tables 4-14 and 4-15, indicate the following impacts on EJ populations for the Livernois-Junction Yard/CP-Expressway terminal area under Alternative 1:

- **Mobility** – There will be acceptable levels of traffic congestion throughout the roadway network around the terminals except at the Dix/Waterman/Vernor intersection/gate area,

as presented in Section 4.1. Even still, truck traffic will continue to use neighborhood streets, as it does today. There will be no impacts on public transit routes (Section 4.2.3).

- **Economic Impacts** – No jobs would be relocated due to intermodal terminal expansion. Over the next 20 years there would be almost 200 jobs created in the terminal area due to continuing growth of intermodal activity, as defined in Section 4.5.
- **Land Use** – The expected investment of the railroads in intermodal activity is likely to stimulate, over the next 20 years, private sector industrial/commercial use of up to 10 acres of available land in the terminal area, as defined in Section 4.5. This expected use of land is consistent with development patterns that currently exist.
- **Air Quality** – Analyses presented in Section 4.8 indicate no violations of CO standards are expected in the areas around the terminals. Compared to today's conditions, pollution is expected to be lower largely because of the use of cleaner engines and fuels, as mandated by U.S. EPA. Nevertheless, the railyards will not be paved under Alternative 1. Regionally, pollutants are forecast to be lower due to the diversion of freight shipments from truck to rail and the use of cleaner fuels and engines.
- **Community Effects** – No acquisition is associated with terminal operations, as defined in Section 4.4. Continued vehicle conflicts are expected at Lonyo and Central as the rail lines at these street crossings will not be separated from the railroad tracks, as defined in Section 4.1. And, industrial and commercial uses are expected to continue to be mixed with residential uses in the terminal area, as they are today, and defined in Section 4.6. This pattern is not likely to be associated with aesthetic improvements to enhance/protect surrounding neighborhoods.
- **Noise** – No perceptible noise increase at sensitive receptors due to terminal activity is forecast from current conditions, as defined in Section 4.9.
- **Cultural Resources** – No effect is expected on historical or archaeologic resources, nor parks/recreational lands, as presented in Sections 4.13 and 4.14, respectively.
- **Contaminated Sites** – No potentially contaminated sites immediately around the terminals are likely to be affected by direct terminal activity, as discussed in Section 4.16. Nevertheless, the increased intermodal activity could cause, over the next 20 years, up to 10 acres of contaminated land (e.g., brownfields) to be reclaimed by private sector development.
- **Water Quality** – The status quo in water quality is expected to continue, as future conditions will be a continuation of past trends, as discussed in Section 4.11. Prevention plans to address spills of hazardous materials will continue to be maintained by the railroads as required by the federal government. The small amount (up to 10 acres) of potentially reclaimed properties (e.g., brownfields) is also considered a continuation of current trends.

The results of the conditions presented above indicate the base condition with no disproportionate adverse effects on the populations covered by the EJ Executive Order in the Livernois-Junction/CP-Expressway terminal area. Trends of the last 30 to 50 years are expected to continue. This condition, though, is less positive than the Action Alternatives, discussed later in this section and summarized in Tables 4-14 and 4-15.

Table 4-14
Summary of Direct and Indirect Impacts

Impact ↓ / Terminal Area →		ALT 1 - 2025 NO ACTION			ALT 2 - 2025 IMPROVE/EXPAND			ALT 3 - 2025 CONSOLIDATE	ALT 4 - 2025 COMPOSITE	
		LIV-JCT-CP/EXP[a]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[b]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[c]	LIV-JCT-CP/EXP[d]	CN/MOTERM
Mobility	Traffic	• Acceptable levels of traffic congestion throughout network except at Dix/ Waterman/ Vernor intersection.	• Acceptable levels of traffic congestion throughout network.	• Acceptable levels of traffic congestion throughout network.	• Acceptable levels of traffic congestion throughout network except at Dix/Waterman/ Vernor gate area under Option A.	• Acceptable levels of traffic congestion throughout network.	• Acceptable levels of traffic congestion throughout network.	• Acceptable levels of traffic congestion throughout network but five intersections which can be made acceptable by modified signal phasing.	• Acceptable levels of traffic congestion throughout network but five intersections which can be made acceptable by modified signal phasing.	• Acceptable levels of traffic congestion throughout network.

Economic Impacts	Jobs[e] in terminal area	• Jobs Relocated from Terminal Area: 0
		• Net Jobs Gained:
		  • Terminal Area 194
		  • Overall 1,029
			• Jobs Relocated from Terminal Area: 0
			• Net Jobs Gained:
			  • Terminal Area 130
			  • Overall 1,029
				• Jobs Relocated from Terminal Area: 0
				• Net Jobs Gained:
				  • Terminal Area 88
				  • Overall 1,029
					• Jobs Relocated from Terminal Area: 0
					• Net Jobs Gained:
					  • Terminal Area 786
					  • Overall 4,950
						• Jobs Relocated from Terminal Area: 596
						• Net Jobs Gained:
						  • Terminal Area 187
						  • Overall 4,950
							• Jobs Relocated from Terminal Area: 0
							• Net Jobs Gained:
							  • Terminal Area 390
							  • Overall 4,950
								• Jobs Relocated from Terminal Area: 286
								• Net Jobs Gained:
								  • Terminal Area 2,245
								  • Overall 9,050
									• Jobs Relocated from Terminal Area: 275
									• Net Jobs Gained:
									  • Terminal Area 1,956
									  • Overall 8,819
										• Jobs Relocated from Terminal Area: 0
										• Net Jobs Gained:
										  • Terminal Area 695
										  • Overall 8,819

Land Use	Land Use	• Maintains existing land use pattern. • Up to 10 acres of available land converted to uses by industrial and commercial businesses supporting intermodal activity.	• Maintains existing land use pattern. • Up to 5 acres of available land converted to uses by industrial and commercial businesses supporting intermodal activity.	• Maintains existing land use pattern. • Up to 5 acres of available land converted to uses by industrial and commercial businesses supporting intermodal activity.	• Consistent with Detroit and Dearborn land use plans. • Up to 40 net acres of available land converted to uses by industrial and commercial businesses supporting intermodal activity.	• Detroit land use plan does not mention terminal. • Up to 15 net acres of available land converted to uses by industrial and commercial businesses supporting intermodal activity	• Consistent with Detroit and Ferndale land use plans. • Up to 20 net acres of available land converted to uses by industrial and commercial businesses supporting intermodal activity	• Consistent with Detroit and Dearborn land use plans. • Up to 120 net acres of available land converted to uses by industrial and commercial businesses supporting intermodal activity.	• Consistent with Detroit and Dearborn land use plans. • Up to 100 net acres of available land converted to uses by industrial and commercial businesses supporting intermodal activity	• Consistent with Detroit and Ferndale land use plans. • Up to 20 net acres of available land converted to uses by industrial and commercial businesses supporting intermodal activity
Air Quality	Carbon Monoxide Hot Spots	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.
	Pollutant Burden	• Terminal burdens less than existing conditions except for PM_{10} and $PM_{2.5}$. • Roadway burdens less than existing conditions because of cleaner engines and fuels. • Regional burdens are reduced.	• Terminal burdens less than existing conditions except for PM_{10} and $PM_{2.5}$. • Roadway burdens less than existing conditions because of cleaner engines and fuels. • Regional burdens are reduced.	• Terminal burdens less than existing conditions except for PM_{10} and $PM_{2.5}$. • Roadway burdens less than existing conditions because of cleaner engines and fuels. • Regional burdens are reduced.	• Terminal burdens increase over No Action due to increased intermodal activity. • Roadway burdens virtually same as No Action. • Regional burdens are reduced.	• Terminal burdens increase over No Action due to increased intermodal activity. • Roadway burdens virtually same as No Action. • Regional burdens are reduced.	• Terminal burdens increase over No Action due to increased intermodal activity. • Roadway burdens virtually same as No Action. • Regional burdens are reduced	• Terminal burdens increase over No Action due to increased intermodal activity. • Roadway burdens slightly less than No Action. • Regional burdens are reduced.	• Terminal burdens about same as No Action even with increased intermodal activity. • Roadway burdens slightly less than No Action. • Regional burdens are reduced.	• Terminal burdens about same as No Action even with increased intermodal activity. • Roadway burdens same as No Action. • Regional burdens are reduced.

[a] Includes the Livernois-Junction Yard, CP/Expressway, and NS/Delray and Triple Crown terminals.
[b] Includes the existing Livernois-Junction Yard and CP/Expressway terminals. The intermodal operations of NS at Delray and Triple Crown will be transferred to the Livernois-Junction Yard. These latter two terminals would serve non-intermodal railroad business.
[c] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway, CP/Oak and CN/Moterm. These latter three terminals would serve non-intermodal railroad business.
[d] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway and CP/Oak. These latter two terminals would serve non-intermodal railroad business.
[e] Jobs relocated are those moved from within terminal area due to terminal expansion. Net jobs are those gained in terminal area. Each terminal area is defined as an "impact zone" around each existing intermodal terminal.
[f] NPDES is the National Pollutant Discharge Elimination System.
Source: The Corradino Group of Michigan, Inc.

Table 4-14 (continued)
Summary of Direct and Indirect Impacts

Impact ↓ / Terminal Area →		ALT 1 - 2025 NO ACTION			ALT 2 - 2025 IMPROVE/EXPAND			ALT 3 - 2025 CONSOLIDATE	ALT 4 - 2025 COMPOSITE	
		LIV-JCT-CP/EXP[a]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[b]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[c]	LIV-JCT-CP/EXP[d]	CN/MOTERM
Community	No. of Residential Units Affected (Acquisitions)	0	0	0	• Option A=0 • Option B = 0 • Option C = 0	• Option A=0 • Option B = 0	0	• 71 single-family plus 12 apartment units	• 29 single-family plus 4 apartment units	0
	No. of Business Units Affected (Acquisitions)	0	0	0	• Option A = 8 • Option B = 11 • Option C = 8	• Option A = 5 • Option B = 6	0	• 64	• 51	0
	Other Affected Properties (Acquisitions)	N/A	N/A	N/A	• One institutional property at CP/Expressway	N/A	• 30 to 35 acres of Fairgrounds property leased.	N/A	N/A	• 30 to 35 acres of Fairgrounds property
	Effects on Community Cohesion	• Industrial/ commercial uses will continue to be mixed with residential uses. • Continued rail/vehicle conflicts at Central/Lonyo.	• Industrial/ commercial uses will continue to be mixed with residential uses.	• Industrial/ commercial uses will continue to be mixed with residential uses.	• Lonyo closed. Central railroad crossing grade separated. • Truck traffic reduced on neighborhood streets.	• Truck traffic reduced on neighborhood streets.	• Truck traffic reduced on neighborhood streets.	• Lonyo closed. Central railroad crossing grade separated. • Truck traffic reduced on neighborhood streets.	• Lonyo closed. Central railroad crossing grade separated. • Truck traffic reduced on neighborhood streets.	• Truck traffic reduced on neighborhood streets.
	Potential Environmental Justice Issues	• No adverse disproportionate impact expected	• No adverse disproportionate impact expected	• No adverse disproportionate impact expected	• No adverse disproportionate impact expected	• No adverse disproportionate impact expected	• No adverse disproportionate impact expected	• No adverse disproportionate impact expected	• No adverse disproportionate impact expected	• No adverse disproportionate impact expected
	Change in Aesthetics	• Intermodal terminals/activity will continue to grow without aesthetic improvements and protection of surrounding neighborhoods.	• Intermodal terminals/activity will continue to grow without aesthetic improvements and protection of surrounding neighborhoods.	• Intermodal terminals/activity will continue to grow without aesthetic improvements and protection of surrounding neighborhoods.	• Walls on north and part of south side of terminal will buffer its activity. Terminal will be paved reducing dust.	• Wall on north edge of terminal will buffer its activity.	• Wall on east side of terminal south of Eight Mile Road will buffer its activity. Gravel area at Fairgrounds will be paved reducing dust.	• Walls on north and part of south sides of Livernois-Junction Yard will buffer its activity. New north side perimeter road will also enhance area. Terminal will be paved reducing dust.	• Walls on north and part of south sides of Livernois-Junction Yard will buffer its activity. New north side perimeter road will also enhance area. Terminal will be paved reducing dust.	• Wall on east side of terminal south of Eight Mile Road will buffer its activity. Gravel area at Fairgrounds will be paved reducing dust.

[a] Includes the Livernois-Junction Yard, CP/Expressway, and NS/Delray and Triple Crown terminals.
[b] Includes the existing Livernois-Junction Yard and CP/Expressway terminals. The intermodal operations of NS at Delray and Triple Crown will be transferred to the Livernois-Junction Yard These latter two terminals would serve non-intermodal railroad business.
[c] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway, CP/Oak and CN/Moterm. These latter three terminals would serve non-intermodal railroad business.
[d] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway and CP/Oak. These latter two terminals would serve non-intermodal railroad business.
[e] Jobs relocated are those moved from within terminal area due to terminal expansion. Net jobs are those gained in terminal area. Each terminal area is defined as an "impact zone" around each existing intermodal terminal.
[f] NPDES is the National Pollutant Discharge Elimination System.
Source: The Corradino Group of Michigan, Inc.

Table 4-14 (continued)
Summary of Direct and Indirect Impacts

Impacts ↓ / Terminal Area →		ALT 1 - 2025 NO ACTION			ALT 2 - 2025 IMPROVE/EXPAND			ALT 3 - 2025 CONSOLIDATE	ALT 4 - 2025 COMPOSITE	
		LIV-JCT-CP/EXP[a]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[b]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[c]	LIV-JCT-CP/EXP[d]	CN/MOTERM
Noise	Noise Considerations	• No perceptible increase.	• No perceptible increase.	• No perceptible increase.	• No perceptible increase with planned barrier wall.	• No perceptible increase with planned barrier wall.	• No perceptible increase with planned barrier wall.	• No perceptible increase with planned barrier wall.	• No perceptible increase with planned barrier wall.	• No perceptible increase with planned barrier wall.
Cultural 4(f) Resources	Effects on Historic/Archaeological Resources	• No Effect	• No Effect	• No Effect	• Adverse effect on bridge deck at Michigan Central Depot	• No Effect	• No Effect	• Removal of Michigan Box Company building and Federal Screw Works factory. Potential adverse effect on Markey and Tomms Houses.	• Removal of Michigan Box Company building.	• No Effect
	Effects on Parklands/ Recreational Land	• No Effect	• No Effect	• No Effect	• No Effect	• No Effect	• 30 to 35 acres from State Fairgrounds	• No Effect	• No Effect	• 30 to 35 acres from State Fairgrounds
Contaminated Sites		• No sites around terminal area expected to change • Potential to remediate up to 10 acres for non-terminal intermodal activity	• No sites around terminal area expected to change • Potential to remediate up to 5 acres for non-terminal intermodal activity	• No sites around terminal area expected to change • Potential to remediate up to 5 acres for non-terminal intermodal activity	• 9 sites around terminal area need additional testing • Potential to remediate up to 40 acres for non-terminal intermodal activity	• 6 sites around terminal area need additional testing • Potential to remediate up to 15 acres for non-terminal intermodal activity	• No sites involved • Potential to remediate up to 20 acres for non-terminal intermodal activity	• 45 sites need additional testing • Potential to remediate up to 120 acres for non-terminal intermodal activity	• 37 sites need additional testing • Potential to remediate up to 100 acres for non-terminal intermodal activity	• No sites involved • Potential to remediate up to 20 acres for non-terminal intermodal activity
Water	Water Quantity/Quality	• No Change • Spill prevention plans will be in place.	• No Change • Spill prevention plans will be in place.	• No Change • Spill prevention plans will be in place.	• Yard paving will improve drainage. • Storm drainage subject of NPDES[f] permitting. • Spill prevention plans will be in place.	• Yard paving will improve drainage. • Storm drainage subject of NPDES[f] permitting. • Spill prevention plans will be in place.	• Fairgrounds is now gravel. Yard paving will improve drainage. • Storm drainage subject to NPDES[f] permitting. • Spill prevention plans will be in place.	• Yard paving will improve drainage. • Storm drainage subject of NPDES[f] permitting. • Spill prevention plans will be in place.	• Yard paving will improve drainage. • Storm drainage subject of NPDES[f] permitting. • Spill prevention plans will be in place.	• Fairgrounds is now gravel. Yard paving will improve drainage. • Storm drainage subject to NPDES[f] permitting. • Spill prevention plans will be in place.
	Quantity/Quality of Wetlands Affected	• None	• None	• None	• 0.01 acres of Palustrine Emergent wetlands of low quality	• None	• 0.07 acres of Palustrine Emergent wetlands of low quality	• 0.01 acres of Palustrine Emergent wetlands of low quality	• 0.01 acres of Palustrine Emergent wetlands of low quality	• 0.07 acres of Palustrine Emergent wetlands of low quality

[a] Includes the Livernois-Junction Yard, CP/Expressway, and NS/Delray and Triple Crown terminals.
[b] Includes the existing Livernois-Junction Yard and CP/Expressway terminals. The intermodal operations of NS at Delray and Triple Crown will be transferred to the Livernois-Junction Yard These latter two terminals would serve non-intermodal railroad business.
[c] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway, CP/Oak and CN/Moterm. These latter three terminals would serve non-intermodal railroad business.
[d] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway and CP/Oak. These latter two terminals would serve non-intermodal railroad business.
[e] Jobs relocated are those moved from within terminal area due to terminal expansion. Net jobs are those gained in terminal area. Each terminal area is defined as an "impact zone" around each existing intermodal terminal.
[f] NPDES is the National Pollutant Discharge Elimination System.
Source: The Corradino Group of Michigan, Inc.

Table 4-15
Detroit Intermodal Freight Terminal Project
Summary of Cumulative Effects

All Action Alternatives
Alternative 2: Improve-Expand
Alternative 3: Consolidate
Alternative 4: Composite of Alts. 2 and 3

Terminal/ Alternative / Effects	All Terminals	Livernois-Junction	CP/Oak	CN/Moterm
	No Action	Alternatives 2, 3 and 4	Alternative 2	Alternatives 2 and 4
Mobility	• Normal, non-DIFT traffic increases. Truck traffic continues to use neighborhood streets.	• No negative effect of congestion on major arteries or local streets unless Jobs Tunnel follows intermodal relocation.	• No negative effect of congestion on major arteries or local streets.	• No negative effect of congestion on major arteries or local streets.
Economic Impacts	• Virtually no change in job/economic trends.	• Local business expansion in several sectors is expected. • Increase in local jobs is expected with greater income levels and buying power. • Growth in tax base is expected.	• Local business expansion in several sectors is expected. • Increase in local jobs is expected with greater income levels and buying power. • Growth in tax base is expected.	• Local business expansion in several sectors is expected. • Increase in local jobs is expected with greater income levels and buying power. • Growth in tax base is expected.
Land Use	• Maintains existing land use patterns.	• Land use changes due to improved economic stimulus. • Unwanted mixing of land uses must be resisted by applying Detroit Master Plan of Policies.	• Land use changes due to improved economic stimulus. • Unwanted mixing of land uses must be resisted by applying Detroit Master Plan of Policies.	• Land use changes due to improved economic stimulus. • Unwanted mixing of land uses must be resisted by applying Detroit Master Plan of Policies.
Air Quality	• Pollution reduced by cleaner engines and fuel.	• Increase in development will possibly increase local pollution but emissions will decrease faster than travel increases with no adverse effect expected.	• Increase in development will possibly increase local pollution but emissions will decrease faster than travel increases with no adverse effect expected.	• Increase in development will possibly increase local pollution but emissions will decrease faster than travel increases with no adverse effect expected.
Community Effects	• Industrial/commercial uses will continue to be mixed with residential uses. • Continued rail/vehicle conflicts at Central and Lonyo.	• Ripple-wave development may create opportunities for use of underused residential parcels. • New local development may lead to unwanted mixing of uses unless already-existing provisions in Detroit Master Plan of Policies and Dearborn Land Use Plan are strictly applied.	• Ripple-wave development may create opportunities for use of underused residential parcels. • New local development may lead to unwanted mixing of uses unless already-existing provisions in Detroit Master Plan of Policies are strictly applied.	• Ripple-wave development may create opportunities for use of underused residential parcels. • New local development may lead to unwanted mixing of uses unless already-existing provisions in Detroit Master Plan of Policies and Ferndale, Highland Park and Hazel Park Land Use Plans are strictly applied.
Noise	• No perceptible increase due to intermodal terminal activity.	• Traffic volumes will increase. Ambient noise levels may increase as economic conditions improve. Proper location of growth away from sensitive areas will avoid adverse noise impacts.	• Traffic volumes will increase. Ambient noise levels may increase as economic conditions improve. Proper location of growth away from sensitive areas will avoid adverse noise impacts.	• Traffic volumes will increase. Ambient noise levels may increase as economic conditions improve. Property location of growth away from sensitive areas will avoid adverse noise impacts.
Cultural Resources	• No effects expected.	• Historic districts/properties may experience effects that may be adverse if local controls are not applied.	• Historic districts/properties may experience effects that may be adverse if local controls are not applied.	• Historic districts/properties may experience effects that may be adverse if local controls are not applied.
Contaminated Sites	• Reclaiming properties now affected by hazardous materials is expected to have a positive effect.	• Reclaiming properties now affected by hazardous materials is expected to have a positive effect.	• Reclaiming properties now affected by hazardous materials is expected to have a positive effect.	• Reclaiming properties now affected by hazardous materials is expected to have a positive effect.
Water Quality	• Maintains status quo.	• Increased development could lead to more impervious surface runoff and pollutant load. It is expected available infrastructure will handle but no certainty exists.	• Increased development could lead to more impervious surface runoff and pollutant load. It is expected available infrastructure will handle but no certainty exists.	• Increased development could lead to more impervious surface runoff and pollutant load. It is expected infrastructure will handle but no certainty exists.

Source: The Corradino Group of Michigan, Inc.

CP/Oak Terminal Area

The analyses presented throughout this document, the results of which are summarized in Tables 4-14 and 4-15, indicate the following impacts on EJ populations for the CP/Oak terminal area under Alternative 1:

- **Mobility** – There will be acceptable levels of traffic congestion throughout the roadway network around the CP/Oak terminal. Even still, truck traffic will continue to use neighborhood streets, as today, as presented in Section 4.1. There will be no impacts on public transit routes (Section 4.2.3).
- **Economic Impacts** – No jobs will be relocated due to intermodal terminal expansion. Over the next 20 years, there would be about 130 jobs created in the terminal area due to continuing growth of intermodal activity, as defined in Section 4.5.
- **Land Use** – The expected investment of the railroads in intermodal activity is likely to stimulate, over the next 20 years, private sector industrial/commercial use of up to five acres of available land in the terminal area to support intermodal activity, as defined in Section 4.5. This use of land is consistent with development patterns that currently exist.
- **Air Quality** – Analyses presented in Section 4.8 indicate no violations of CO standards are expected in the terminal area. Compared to today's conditions, pollution is expected to be lower largely because of the use of cleaner engines and fuels, as mandated by EPA. Regionally, pollutants are forecast to be reduced due to the diversion of freight shipments from truck to rail and the use of cleaner fuels and engines.
- **Community Effects** – No acquisition is associated with terminal expansion as there will be none, as defined in Section 4.4. Industrial and commercial uses are expected to continue to be mixed with residential uses in the terminal area, as they are today, and as defined in Section 4.6. This pattern is not likely to be associated with aesthetics improvements.
- **Noise** – No perceptible noise increase at sensitive receptors due to terminal activity is forecast from current conditions, as defined in Section 4.9.
- **Cultural Resources** – No effect is expected on historical or archaeologic resources, nor parks/recreational lands, as presented in Sections 4.13 and 4.14, respectively.
- **Contaminated Sites** – No potentially contaminated sites immediately around the terminal area likely to be affected, as discussed in Section 4.16. Nevertheless, the increased intermodal activity could cause, over the next 20 years, up to five acres of contaminated land in brownfields to be reclaimed by private sector development.
- **Water Quality** – The status quo in water quality is expected to continue, as future conditions will be a continuation of past trends, as discussed in Section 4.11. Prevention plans to address spills are and will continue to be maintained by the railroads as required by the federal government. The small amount (up to five acres) of potentially reclaimed properties (e.g., brownfields) is also considered a continuation of current trends.

The results of the conditions presented above indicate there will be no disproportionate adverse effects on the populations covered by the EJ Executive Order in the CP/Oak terminal area. Trends of the last 30 to 50 years are expected to continue. This condition, though, is less positive overall than the Action Alternatives, discussed later in this section and summarized in Tables 4-14 and 4-15.

CN/Moterm Terminal Area

The analyses presented throughout this document, the results of which are summarized in Tables 4-14 and 4-15, indicate the following impacts on EJ populations for the CN/Moterm terminal area under Alternative 1:

- **Mobility** – There will be acceptable levels of traffic congestion throughout the roadway network around the CN/Moterm terminal. There will be no impacts on public transit routes (Section 4.2.3).
- **Economic Impacts** – No jobs would be relocated due to intermodal terminal expansion. Over the next 20 years, there would be about 90 jobs created in the terminal area due to continuing growth in intermodal activity, as defined in Section 4.5.
- **Land Use** – The expected investment of the railroads in intermodal activity is likely to stimulate, over the next 20 years, industrial/commercial use of up to five acres of available land in the terminal area, as defined in Section 4.5. This use of land is consistent with development patterns that currently exist.
- **Air Quality** – Analyses presented in Section 4.8 indicate no violations of CO standards are expected in the area around the terminal. Compared to today's conditions, pollution is expected to be lower, largely because of the use of cleaner engines and fuels, as mandated by EPA. Regionally, pollutants are forecast to be lower due to the diversion of freight shipments from truck to rail and the use of cleaner fuels and engines.
- **Community Effects** – No acquisition is associated with terminal expansion as there will be none, as defined in Section 4.4. Industrial and commercial uses are expected to continue to be mixed with residential uses in the terminal area, as they are today, and as defined in Section 4.6. This pattern is not likely to be associated with aesthetic improvements.
- **Noise** – No perceptible noise increase is forecast at sensitive receptors due to terminal activity from current conditions, as defined in Section 4.9.
- **Cultural Resources** – No effect is expected on historical and archaeologic resources, nor parks/recreational lands, as presented in Sections 4.13 and 4.15, respectively.
- **Contaminated Sites** – No potentially contaminated sites around the terminal area are likely to be affected by direct terminal activity, as discussed in Section 4.16. The increased intermodal activity could cause, over the next 20 years, up to five acres of contaminated land (e.g., brownfields) to be reclaimed by private sector development.
- **Water Quality** – The status quo in water quality is expected to continue, as future conditions will be a continuation of past trends, as discussed in Section 4.11. Prevention plans to address spills are and will continue to be maintained by the railroads as required by the federal government. The small amount (up to five acres) of potentially reclaimed properties (brownfields) is also considered a continuation of current trends.

The results of the conditions presented above indicate there will be no disproportionate adverse effects on the populations covered by EJ regulations in the CN/Moterm terminal area. Trends of the last 30 to 50 years are expected to continue. This condition, though, is less positive overall than the Action Alternatives, discussed next.

Alternative 2: Improve/Expand Existing Terminals

Livernois-Junction Yard/CP-Expressway Terminal Area

The analyses presented throughout this document, the results of which are summarized in Tables 4-14 and 4-15, indicate the following impacts on EJ populations for the Livernois-Junction/CP-Expressway terminal area under Alternative 2.:

- **Mobility** – There will be acceptable levels of traffic congestion throughout the roadway network around the terminals, except at the Dix/Waterman/Vernor intersection/gate area under Option A, as presented in Section 4.1. Truck traffic will be reduced on neighborhood streets. And, Lonyo will be closed while the Central Avenue crossing of the railroad tracks will become grade separated, thereby improving the safe movement of traffic around the terminal area. Finally, improving the I-94/Livernois interchange will improve safe truck movements and reduce truck traffic on neighborhood streets. There will be no impacts on public transit routes (Section 4.2.3).
- **Economic Impacts** – No jobs are expected to be lost to the terminal area but some will be relocated within it as between eight and 11 business operations would be moved. Over the next 20 years, there would be about 800 jobs created in the terminal area due to intermodal activity, as defined in Section 4.5. Growth in the local tax base is forecast as is local business expansion.
- **Land Use** – The expected investment by the railroads and government is likely to stimulate, over the next 20 years, industrial/commercial use of up to 40 acres of available land in the terminal area to support intermodal activity, as defined in Section 4.5. This intermodal development activity is consistent with the land use plans of Detroit and Dearborn. Unwanted mixing of land uses must be resisted by applying already-existing provisions of the Detroit Master Plan and Policies and Dearborn Master Plan.
- **Air Quality** – Analyses presented in Section 4.8 indicate no violations of CO standards are expected in the areas around the terminals. Compared to the No Action condition in 2025, terminal pollutant burdens are expected to increase due to the forecast increase in intermodal activity. The Livernois-Junction Yard will be paved. The 2025 pollution burdens of the roadways around the terminals are forecast to be virtually the same as today. The regional mobile source pollutant burdens are expected to be reduced due to diversion of freight shipments from truck to rail and the use of cleaner fuels and engines.
- **Community Effects** – Between eight and 11 businesses but no residential units are expected to be relocated due to expansion of the terminals, but none are likely to relocate outside the terminal area as defined in Sections 4.4 and 4.5. One institutional property (a City of Detroit Public Works facility) would be relocated for CP/Expressway terminal expansion. Lonyo would be closed and Central Avenue rebuilt to pass under the railroad lines, improving the safe flow of vehicles. Truck traffic on neighborhood streets would be reduced. Barrier walls for security on the north side of the terminal, and part of the south, will buffer its activity, improving the aesthetics of the area. The terminal will be paved, reducing the effects of dust on the nearby population.
- **Noise** – No perceptible increase in noise in sensitive areas is expected with planned barrier walls for security purposes, as defined in Section 4.9. Traffic volumes in the terminal area will increase as economic conditions improve. Ambient noise levels may also increase.
- **Cultural Resources** – An adverse effect is expected by removal of the bridge deck at Michigan Central Depot, as defined in Section 4.13. No effects are forecast on parks/recreational lands, as presented in Section 4.14.

- **Contaminated Sites** – Nine sites in the immediate area around the terminals, suspected of having contamination, need additional testing, if these terminals were expanded. This information is presented in Section 4.16. The increased intermodal activity could cause, over the next 20 years, up to 40 acres of contaminated land (e.g., brownfields) to be reclaimed by private sector development. This could lead to increased, but less polluted, water runoff.
- **Water Quality** – As discussed in Section 4.11, it is expected that paving the Livernois-Junction Yard will improve drainage as the runoff today clogs sewer inlets which causes standing water. The storm drainage system of the improved terminals will be subject to NPDES (National Pollutant Discharge Elimination System) permitting. Where the project increases stormwater amounts by paving terminals surfaces that now absorb water, storage will be engineered into the system (oversized pipes or retention areas) so that the flow rate of stormwater does not increase. Because of the combined sewer system, all water will be treated before it outfalls to the Detroit River. Prevention plans to address accidental spills of hazardous materials will continue to be maintained by the railroads as required by the federal government. Reclaiming up to 40 acres of potentially contaminated property (brownfields) is possible.

The results of the conditions presented above indicate an adverse effect due to an increase in terminal air pollution burdens. This is associated with increased intermodal activity compared to the No Action Alternative. Likewise, a negative effect on an historical feature of the Michigan Central Depot is expected. Positive developments are forecast in the areas of mobility, economic impacts, land use, community effects, reclaiming contaminated sites, and water quality. On balance, there will be no disproportionate adverse effect on populations covered by the EJ Executive Order in the Livernois-Junction/CP-Expressway terminal area as a result of Alternative 2's proposed terminal expansion. Nevertheless, it is recognized an adverse effect(s) may occur and, if so, it (they) will be mitigated and/or minimized in the design, right-of-way and construction phases of project implementation, if Alternative 2 were selected as the preferred alternative.

CP/Oak Terminal Area

The analyses presented throughout this document, the results of which are summarized in Tables 4-14 and 4-15, indicate the following impacts on EJ populations for the CP/Oak terminal area under Alternative 2:

- **Mobility** – There will be acceptable levels of traffic congestion throughout the roadway network around the terminal, as presented in Section 4.1. There will be no impacts on public transit routes (Section 4.2.3).
- **Economic Impacts** – Almost 600 jobs are expected to be relocated from the terminal area, as discussed in Section 4.5. Over the next 20 years, those 600 jobs would be regained and another 200 created in the terminal area. As a result, local business expansion is also expected as well as growth in the tax base.
- **Land Use** – The expected investment by the railroads and government is likely to stimulate, over the next 20 years, industrial/commercial use of up to 15 acres of available land in the terminal area to support intermodal activity, as defined in Section 4.5. This intermodal development activity is consistent with the land use plan of Detroit. Unwanted mixing of land uses should be resisted by applying already-existing provisions of the Detroit Master Plan of Policies.

- **Air Quality** – Analyses presented in Section 4.8 indicate no violations of CO standards are expected in the areas around the CP/Oak terminal. Compared to the No Action condition in 2025, terminal pollutant burdens are expected to increase due to the forecast increase in intermodal activity. The 2025 pollutant burdens of the roadways around the terminal are forecast to be virtually the same as today. The regional mobile source pollutant burdens are expected to be reduced due to the diversion of freight shipments to rail and the use of cleaner fuels and engines.
- **Community Effects** – Up to six businesses are expected to be relocated due to terminal expansion. Most of these are likely to move outside the terminal area, as defined in Sections 4.4 and 4.5. Truck traffic on neighborhood streets would be reduced. Barrier walls for security on the north side of the terminal will buffer its activity, improving the aesthetics of the area.
- **Noise** – No perceptible increase in noise in sensitive areas is expected with planned barrier walls for security purposes, as defined in Section 4.9. Traffic volumes in the terminal area will increase with improved economic conditions. Ambient noise levels may also increase.
- **Cultural Resources** – No effect is expected on historic, archaeologic or parks/recreational land resources, as presented in Sections 4.13 and 4.14, respectively.
- **Contaminated Sites** – Six sites in the immediate area around the CP/Oak terminal, suspected of having contamination, need additional testing, if the terminal were expanded. This information is presented in Section 4.16. The increased intermodal activity could cause, over the next 20 years, up to 15 acres of contaminated land (e.g., brownfields) to be reclaimed by private sector development. This could lead to increased, but less polluted, water runoff.
- **Water Quality** – As described in Section 4.11, it is expected that paving of the CP/Oak Yard will improve water quality. The storm drainage system of the terminals will be subject to NPDES permitting. Where the project increases stormwater amounts by paving surfaces at terminals that now absorb water, storage will be engineered into the system (oversized pipes or retention areas) so that the flow rate of stormwater does not increase. Because of the combined sewer system, all water will be treated before it outfalls to the Detroit River. Prevention plans to address accidental spills of hazardous materials will continue to be maintained by the railroads as required by the federal government. Reclaiming up to 15 acres of potentially contaminated properties (e.g., brownfields) is possible.

The results of the conditions presented above indicate an adverse effect due to an increase in terminal pollutant burdens in the areas around the terminal. This is associated with increased intermodal activity, compared to the No Action Alternative. Positive developments are forecast in almost all other evaluation areas. On balance, there will be no disproportionate adverse effect on populations covered by the EJ Executive Order in the CP/Oak terminal area as a result of Alternative 2's proposed terminal expansion. Nevertheless, it is recognized an adverse effect(s) may occur and, if so, it (they) will be mitigated and/or minimized in the design, right-of-way and construction phases of project implementation, if Alternative 2 were selected as the preferred alternative.

CN/Moterm Terminal Area

The analyses presented throughout this document, the results of which are summarized in Tables 4-14 and 4-15, indicate the following impacts on EJ populations for the CN/Moterm terminal area under Alternative 2:

- **Mobility** – Acceptable levels of traffic congestion are expected throughout the roadway network around the terminal, as described in Section 4.1. There will be no impacts on public transit routes (Section 4.2.3).
- **Economic Effects** – No jobs would be lost in the terminal area due to intermodal terminal expansion. Over the next 20 years, there would be almost 400 jobs created in the terminal area due to intermodal terminal activity, as defined in Section 4.5. Growth in local businesses and tax base are expected.
- **Land Use** – The expected investment by the railroads and government is likely to stimulate, over the next 20 years, industrial/commercial use of up to 20 acres of available land in the terminal area to support intermodal activity, as defined in Section 4.5. This expected intermodal development is consistent with the land use plan of Detroit. Unwanted mixing of land uses should be resisted by applying already-existing provisions in the Detroit Master Plan of Policies and the Ferndale, Highland Park and Hazel Park land use plans.
- **Air Quality** – Analyses presented in Section 4.8 indicate no violations of CO standards are expected in the areas around the terminals. Compared to the No Action condition in 2025, terminal pollutant burdens are expected to increase due to the forecast increase in intermodal activity. The 2025 pollution burden of the roadways around the terminal are projected to be virtually the same as today. The regional mobile source pollutant burdens are expected to be reduced due to diversion of freight shipments from truck to rail and the use of cleaner fuels and engines.
- **Community Effects** – There will be no businesses relocated for this terminal's expansion, as defined in Sections 4.4 and 4.5. Up to 35 acres of Fairgrounds property would be leased for terminal activity. Truck traffic on neighborhood streets would be reduced. Barrier walls for security on the east side of the terminal, south of Eight Mile Road, would buffer its activity. The gravel area at the Fairgrounds would be paved, reducing the effects of dust on nearby areas.
- **Noise** – No perceptible increase in noise in sensitive areas is expected with planned barrier walls for security purposes, as defined in Section 4.9. Traffic volumes in the area will increase with improved economic conditions. Ambient noise levels may also increase.
- **Cultural Resources** – While no effect on historic and archaeologic resources is expected, up to 35 acres of State Fairgrounds property would be leased for intermodal terminal activity. In the past, about 10 acres of Fairgrounds property was used for this purpose by Canadian National Railroad. Information on this issue is presented in Sections 4.13 and 4.14, respectively.
- **Contaminated Sites** – No sites suspected of having contaminants would be affected by expanding the terminal, as discussed in Section 4.16. The increased intermodal activity could cause, over the next 20 years, up to 20 acres of contaminated land (e.g., brownfields) to be reclaimed by private sector development. This could lead to increased, but less polluted, runoff.
- **Water Quality** – As described in Section 4.11, it is expected that paving the gravel area of the Fairgrounds to be used for intermodal terminal development will improve water quality. The storm drainage system of the expanded terminal will be subject to NPDES permitting. Where the project increases stormwater amounts by paving surfaces at terminals that now absorb water, storage will be engineered into the system (oversized pipes or retention areas) so that the flow rate does not increase. Because of the combined sewer system, all water will be treated before it outfalls to the Detroit River. Prevention plans to address accidental spills of hazardous materials will continue to be maintained as

required by the federal government. Reclaiming up to 20 acres of potentially contaminated properties (e.g., brownfields) is possible.

The results of the conditions presented above indicate an adverse effect due to an increase in terminal air pollutant burdens. This is associated with increased intermodal activity compared to the No Action Alternative. Also, there would be an adverse effect as up to 35 acres of protected 4(f) recreational land would be used for intermodal terminal expansion. Positive developments are forecast in almost all other evaluation areas. On balance, there will be no disproportionate adverse effect on populations covered by the EJ Executive Order in the CN/Moterm terminal area as a result of Alternative 2's proposed terminal expansion. Nevertheless, it is recognized an adverse effect(s) may occur and, it so, it (they) will be mitigated and/or minimized in the design, right-of-way and construction phases of project implementation, if Alternative 2 were selected as the Preferred Alternative.

Alternative 3: Consolidate All Four Class I Railroads' Intermodal Activity at Livernois-Junction Yard Area

The analysis presented throughout this document, the results of which are summarized in Tables 4-14 and 4-15, indicate the following impacts on EJ populations for the Livernois-Junction Yard/CP-Expressway terminal area under Alternative 3:

- **Mobility** – There will be acceptable levels of traffic congestion throughout the roadway network around the terminal, except at five intersections. Modifying signal timings at these intersections will address this problem, as presented in Section 4.1. Truck traffic will be reduced on neighborhood streets. Lonyo will be closed while the Central Avenue crossing of the railroad tracks will be grade separated, thereby improving the safe movement of traffic around the terminal area. Finally, improving the I-94/Livernois interchange will improve safe truck movements and also help reduce truck traffic on neighborhood streets. There will be no impacts on public transit routes (Section 4.2.3).
- **Economic Impacts** – Almost 290 jobs are expected to be relocated out of the terminal area due to terminal expansion. These will be replaced by more than 2,200 new jobs associated with the investment in intermodal development, over the next 20 years, as defined in Section 4.5. Local business expansion and growth in the local tax base are anticipated.
- **Land Use** – The expected investment by the railroads and government is likely to stimulate, over the next 20 years, industrial/commercial development of up to 120 acres of available land to support intermodal activity, as defined in Section 4.5. This intermodal development activity is consistent with the land use plans of Detroit and Dearborn. Unwanted mixing of land uses should be resisted by applying already-existing provisions in the Detroit Master Plan of Policies and the Dearborn Master Plan.
- **Air Quality** – Analyses presented in Section 4.8 indicate no violations of CO standards are expected in the areas around the terminal. Compared to the No Action condition in 2025, terminal pollutant burdens are expected to increase with the increase in intermodal activity. The roadway burdens are expected to be slightly less than the No Action Alternative because of the removal of traffic through acquisition/relocation from the area around the terminal (64 businesses, 71 single-family residences and 12 apartment units). The regional mobile source pollutant burdens are expected to be reduced due to diversion of freight shipments from truck to rail and the use of cleaner fuels and engines.
- **Community Effects** – Sixty-four businesses, 71 single-family residences and 12 apartment units are expected to be relocated due to the expansion of the terminal. Almost

290 jobs would be relocated out of the terminal area, compensated by an increase of more than 2,200 new jobs stimulated by intermodal investment, consistent with data presented in Section 4.5. Lonyo would be closed and Central Avenue grade separated from the railroad lines, improving safe flow of vehicles. Truck traffic on neighborhood streets would be reduced. Barrier walls for security on the north side of the terminal, and part of the south, will buffer its activity, improving the aesthetics of the area. The terminal will be paved, reducing the effects of dust on the nearby population.

- **Noise** – No perceptible increase in noise on sensitive areas is expected with planned barrier walls for security purposes, as defined in Section 4.9. Traffic volumes in the terminal area will increase as economic conditions improve. Ambient noise levels may also increase.
- **Cultural Resources** – An adverse effect is expected by removal of the Michigan Box Company building and the Federal Screw Works Factory. Also potential adverse effects to the Markey and Tomms Houses, as defined in Section 4.13. No effects are forecast on parks/recreational lands, as presented in Section 4.14.
- **Contaminated Sites** – Forty-five sites in the immediate area around the terminal, suspected of having contamination, need additional testing, if this terminal were expanded. This information is presented in Section 4.16. The increased intermodal activity could cause, over the next 20 years, up to 120 acres of contaminated land (e.g., brownfields) to be reclaimed by the private sector. This could lead to increased, but less polluted, water runoff.
- **Water Quality** – As discussed in Section 4.11, it is expected that paving the Livernois-Junction Yard will improve drainage as the runoff today clogs sewer inlets which causes standing water. The storm drainage system of the improved terminal will be subject to NPDES permitting. Where the project increases stormwater amounts by paving terminals surfaces that now absorb water, storage will be engineered in the system (oversized pipes or retention areas) so that the flow rate of stormwater does not increase. Because the combined sewer system, all water will be treated before it outfalls to the Detroit River. Prevention plans to address accidental spills of hazardous materials will continue to be maintained by the railroads. Reclaiming up to 120 acres of potential contaminated properties (e.g., brownfields) is possible.

The results of the conditions presented above indicate minimal adverse effects and the potential for an overall positive effect on populations covered by the EJ regulations. Therefore, there will not be a disproportionate adverse effect on these groups.

Alternative 4: The Composite Option

The impacts on the Livernois-Junction Yard and the CN/Moterm terminal, both of which would be expanded under this alternative, are summarized on Tables 4-14 and 4-15. They are very much like those effects reported on for Alternative 3 for the Livernois-Junction Yard and for Alternative 2 for the CN/Moterm terminal. The conclusion again is that there will be minimal adverse effects and no disproportionate negative effect on population groups covered by the EJ Executive Order.

Summary

Alternative 3 could be viewed as having the most positive effect overall on EJ populations as it would generate the most jobs. The pollutant burden for all terminals combined is less than today, as is the roadway burden.

4.4 Relocations

To construct any of the Action Alternatives, proposed permanent fee right-of-way and grading permits will be required.[8] New right-of-way that MDOT will likely need to acquire is identified in the Engineering Concepts Report[9] and in Appendix D. Information is summarized in Table 4-16. If an Action Alternative is chosen, then acquisition of these parcels will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. A "Relocation Plan – Conceptual Stage" (Appendix B) was developed based on a review of real estate available in the study area. It was determined that there is an adequate number of suitable residences for sale and commercial space for lease or vacant commercial land available for development that will allow relocation without hardship.

Table 4-16
Relocation Information

Potential Acquisition	Alt. 1 - No Action	Alternative 2 - Improve/Expand							Alternative 3 - Consolidate	Alternative 4 - Composite	
		Liv-Jct			CP/ Expressway	CP/Oak		CN/ Moterm	Liv-Jct	Liv-Jct	CN/ Moterm
		2A	2B	2C		2A	2B				
Single Family	0	0	0	0	0	0	0	0	71	29	0
Multiple Family	0	0	0	0	0	0	0	0	12	4	0
Businesses/Institutions	0	8	11	8	1	5	6	0	64	51	0

Source: The Corradino Group of Michigan, Inc.

4.4.1 Alternative 1: No Action

Under the No Action Alternative no relocations of residences or businesses are expected.

4.4.2 Alternative 2: Improve/Expand Existing Terminals

Livernois-Junction Yard

Under this alternative, there would be no residential property impacts. Depending on the access/gate locations, between eight and 11 businesses would potentially be acquired at the Livernois-Junction Yard terminal under Alternative 2. It is estimated that these businesses employ 30 to 80 people, respectively. This acquisition is for creating a Central Avenue underpass of the rail yard and/or creation of a west gate to Wyoming. Interviews indicate businesses that may be relocated would likely choose to remain in the terminal area.

CP/Expressway

A City of Detroit Public Works facility and one vacant industrial parcel would be acquired if the Expressway terminal were expanded. It is estimated that the DPW facility is associated with 30 jobs which are likely to be relocated in the terminal area.

[8] Grading permits give MDOT the right to temporarily enter private property to make minor grading changes - those that will not alter the permanent nature of the ground significantly or negatively. Basically, MDOT would pay a fee for "renting" the property for a short period of time to make these minor changes. If a large grade change is made, mitigation may be necessary, i.e. timber retaining walls, vegetation, etc. Decisions on grading permits are made during the design phase.

[9] *Engineering Concepts Report, DIFT*, The Corradino Group and Alfred Benesch & Company, October 2004.

CP/Oak

Between five to six businesses would be affected depending on the terminal access configuration chosen to serve an expanded Oak terminal. It is estimated that these businesses employ approximately 600 people. They are likely to be relocated in the region but outside the terminal area.

CN/Moterm

Approximately 35 acres of property from the Michigan State Fairgrounds that is leased for the storage of automobiles would be used for an expanded Moterm terminal under Alternatives 2 and 4. It is estimated that this operation affects the employment of approximately ten people. Their jobs are likely to be relocated in the terminal area.

4.4.3 Alternative 3: Consolidate All Four Class I Railroads' Intermodal Activity at Livernois-Junction Yard Area

Eighty-three residential units would potentially be relocated if the Livernois-Junction Yard were expanded to accommodate consolidating the intermodal activity of all four Class I railroads. Alternative 3 would potentially involve acquisition of 64 businesses. It is estimated that these businesses employ today almost 1,200 people. Interviews indicate most businesses that may be relocated would choose to remain in the terminal area.

4.4.4 Alternative 4: The Composite Option

Acquisition of 51 businesses around the Livernois-Junction Yard would be involved in developing Alternative 4. It is estimated that these 51 businesses employ almost 1,000 people. The majority are likely to be relocated in the terminal area. Thirty-three occupied dwelling units would also be required in developing Alternative 4.

Housing is available in each terminal area to accommodate potential residential relocations. Businesses potentially affected are primarily industrial. They are likely to relocate in or near the terminal area in which they are now located, minimizing job loss in the terminal area. Industrial/commercial space for lease and vacant industrial/commercial land available for development will allow relocation without hardship. A considerable number of lots zoned industrial/commercial are for sale and industrial/commercial space is available for lease at a number of locations.

4.5 Economic Impacts

4.5.1 Introduction

The Policy Insight™ model, created by Regional Economic Models, Inc. (REMI), used for this analysis was configured to account for the regional economic environment. Additionally, the model was adjusted to gauge the economic conditions in local areas surrounding the intermodal terminals. The model as applied forecasts how the local and regional economies are expected to perform based on historical trends and compares this control forecast with forecasts that reflect the new investment and operation of each alternative intermodal rail development strategy. It is noted that the Policy Insight™ model is designed for application at the regional level. Therefore, applying the model to

smaller areas than the region provides general insight, but is inherently less accurate than forecasts developed for regional applications.

To establish the control forecast, the model uses as input historical time-series data published by federal and state agencies, including the U.S. Bureau of the Census, the U.S. Bureau of Economic Analysis, the U.S. Bureau of Labor Statistics, and the Michigan Department of the Treasury, among other sources. The data include population and demographic information, labor and wage rate information, taxation and government revenue data, business and economic activity data.

The model encompasses six study zones[10] (Figure 4-26a):

- Livernois-Junction – CP/Expressway terminal area: zip codes 48120, 48126, 48208, 48209, 48210, 48216, and 48217;
- CP/Oak terminal area: zip codes 48223, 48227, and 48228;
- CN/Moterm terminal area: zip codes 48030, 48203, 48220, and 48221;
- "Detroit Plus": all zip codes in Detroit plus four adjacent zip codes[11];
- "Wayne County Plus": all zip codes in Wayne County plus two adjacent zip codes[12]; and,
- Michigan: all zip codes in Michigan.

These zones are "cumulative," i.e., Detroit includes all three terminal areas; Wayne County includes all three terminal areas and all of Detroit. Terminal area boundaries were drawn to incorporate affected adjacent neighborhoods consistent with the boundaries of local zip codes and were established in consultation with the various groups engaged in the DIFT study process as mentioned in Section 4.3.

For each analysis zone, historical data were input to the model and calibrated, then the control forecast was calculated through 2025. This forecast was based on the continuation of historical trends and interrelationships inherent in federal and state statistics, and calibrated with local revenue and spending data to verify accuracy. No other assumptions were incorporated into the control forecast.

The model, integrated with the forecasts of commodity flow (Figure 4-26b) develops forecasts of economic measures based on the following attributes:

- Construction costs, including terminal, external rail infrastructure, and roads;
- Land acquisition costs, including the cost of purchase, business and residential relocation, and environmental remediation;
- The extent of residential and business relocation, including the destination zone where jobs and households are expected to relocate;

[10] The Policy Insight™ model uses the mutually exclusive intermediary zones "Rest of Detroit," "Rest of Wayne," "Rest of Oakland," and "Rest of State" in order to avoid double counting.
[11] "Detroit Plus" includes additional area outside its jurisdiction to accommodate two zip codes in Dearborn adjacent to the Livernois-Junction Terminal (48120 and 48126) and two zip codes in Ferndale and Hazel Park adjacent to the CN/Moterm Terminal (48220 and 48030), as well as the cities of Highland Park and Hamtramck, which are entirely encapsulated by the City of Detroit.
[12] "Wayne County Plus" also includes the Ferndale and Hazel Park zip codes (48220 and 48030), which are in Oakland County.